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**"EXCELLENT" QUESTIONS
BY TOM PETERS**

Inc.[®]

THE MAGAZINE FOR
GROWING COMPANIES

**THE INC. 500 Honoring
America's
fastest-growing
private
companies**



**THE ONE-MINUTE
LENDER Saying
no to small
companies has
never been
easier**



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George Gilder
author
Wealth and Poverty



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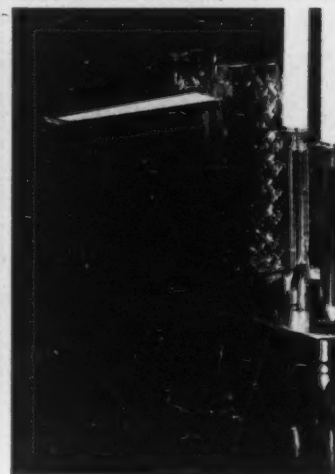
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Honoring America's fastest-growing private companies

THE 1984 INC. 500

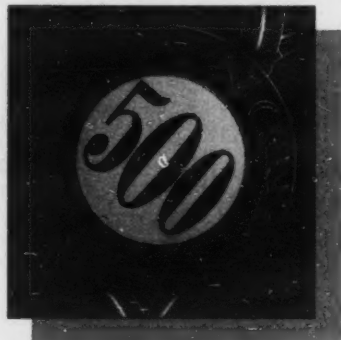
They are the pacesetters of America's reborn economy: 500 companies with \$5.7 billion in sales, a 992% growth rate, and a 402% increase in employment over the past five years. But the members of our third annual INC. 500 are more than the fastest-growing privately held companies in America. Beyond the numbers, each company represents an opportunity seized, men and women with the imagination and vision to embark on what Dick Dotts, chief executive officer of 1984's #1 company, Pedus International, calls "the rocky voyage to growth."

In the report that follows, INC. has tried to chart some of the currents and shoals along that journey. We explored the changing face of the companies on the list—the youngest, fastest-growing, and most productive of the past three years (see page 52). We looked at the acquisition strategy Dotts used to take Pedus

from \$383,000 in sales in 1979 to \$60.5 million in 1983 (see page 60); and we charted the growth routes of 10 other men and women, from a world-class mountaineer turned retailer to a former fashion model turned medical recruiter (see page 72). We examined what happens when CEOs decide that growth is not enough—that as their companies change, their own course must change as well (see page 66). We looked at the mix of problems and opportunities facing a growing company in a growing industry like computers, and at those facing a company in a slow-moving industry like homebuilding (see page 85).

Finally, we explored the fate of last year's INC. 500—the class of 1983—and learned what happened to four individual entrepreneurs who fell from the list (see page 94).

Turbulent, chancy, exhilarating—the voyage to growth requires courage and daring. But those who have been on it say it is a trip not to be missed.



INSIDE THE INC. 500

The class of '84 is the youngest, the fastest-growing—and by far the most productive—in the history of the ranking.

BY CURTIS HARTMAN

It was a time for good news. After the worst recession in a decade, the long-awaited recovery had finally come to pass. Inflation and unemployment were down; housing starts, consumer spending, and industrial output were up. The IPO market boomed, raising a record \$12.6 billion for 888 new issues. After four years of decline, corporate profits made a stunning comeback, and Wall Street celebrated with a broad bull market that pushed prices to historical highs.

Not that all of 1983's news brought jubilation. A record 612,000 new business incorporations was matched by a record 31,334 business failures, including the demise of Osborne Computer Corp., the bankruptcy of Baldwin-United Corp., and the default of the First National Bank of Midland, the second-worst bank collapse in American history. While retailers, automakers, and real estate companies rebounded sharply, the video-game business entered a downward spiral, the airlines continued their deregulated bloodletting, and imports continued to eat away at the moribund American steel industry. The dollar kept climbing, but so did American trade deficits. Interest rates came down, but the prime stayed at double digits. While the recovery remained strong, the black cloud of the federal deficit loomed on the horizon.

Yet for all the uncertainties, it was an upbeat year. And the 1984 INC. 500 companies, along with thousands of other dynamic businesses like them, were the leaders of the national turnaround.

The INC. 500 lists the fastest-growing privately held companies in the United States, ranked by percentage increase in sales from fiscal 1979 through fiscal 1983. As a group, this year's companies have seen meteoric expansion: a 992% increase in sales over the five-year period. In 1979, sales for the 500 companies totaled only \$521.9 million; the average company generated slightly more than \$1 million, and only 19 topped the \$5-million mark. In 1983, however, sales for the 500 came to almost \$5.7 billion; the aver-

THE INC. 500 AT A GLANCE

NO. OF COMPANIES BY INDUSTRY			
Manufacturing			156
Wholesale			77
Retail			34
Service			205
Construction			28
TOTAL SALES IN 1983 (\$MIL.)			\$5,698.7
TOTAL SALES IN 1979 (\$MIL.)			521.9
Percent change (1979-83)			992%
AVG. SALES IN 1983 (\$MIL.)			\$11.4
AVG. SALES IN 1979			1.0
AVG. SALES PER EMPLOYEE, 1983			\$97,239
AVG. SALES PER EMPLOYEE, 1979			44,727
Percent change (1979-83)			117%
COMPOUND AVG. ANN. SALES GROWTH (1979-83)			
Total			81.78%
Range			51.89%-254.58%
Median			76.15%
NO. OPERATING AT A PROFIT			
463			
16% or more	34	1%-5%	248
11%-15%	49	Breakeven	11
6%-10%	132	Loss	26
Over the past five years, 175 companies have seen earnings grow, 117 have seen their earnings drop, and 208 have stayed the same.			
TOTAL NO. OF EMPLOYEES			
1983			58,605
1979			11,668
Percent increase			402.27%
AVG. NO. OF EMPLOYEES			
1983			117.2
1979			23.3
YEAR FOUNDED			
Before 1960	12	1975	36
1960-70	37	1976	63
1971	9	1977	100
1972	19	1978	103
1973	15	1979	84
1974	22		
FOUNDER IS CEO			448
CEO EQUITY			
100%	153	25%-49.9%	91
90%-99.9%	29	1%-24.9%	34
51%-89.9%	116	0%	5
50%	69	NA	3
NO. ACQUIRING OTHER COMPANIES (1979-83) 113			

age volume was \$11.4 million, and more than half exceeded the \$5-million mark. Twenty companies climbed to more than \$50 million, and 4 topped \$100 million.

The sales leader—Gemcraft Homes Inc. (#19)—hit \$228 million.

The diversity of the 500 testifies to the wide range of opportunities open to the entrepreneur, from CEO Stanley Hermens's air taxi service, Hermens Air Inc. (#487), to CEO Len Ganote's Hawaiian Pacific Elevator Corp. (#133). Some reflect the passions of world-class athletes like marathoner Bill Rodgers, co-founder of Bill Rodgers & Co. (#93), a maker of running gear, or of amateurs like C. R. "Duke" Duclos, a golfer who designed a new putter to improve his game and went on to build Slotline Golf (#339).

The INC. 500 are primarily young companies. All but 49 were created since 1970, over half from 1977 to '79. A date of origin can be deceptive, however. The oldest company on the list—N. Chasen & Son (#213), founded in 1914—has become a new business since the leadership torch passed from father to son. Irvin Chasen is still the CEO, but his 29-year-old son Jeff has turned the steady \$1-million-a-year painting contractor into a \$12-million office-furnishing operation.

Company founders, in 90% of the cases, have held on to the reins of the businesses they started, continuing to serve as CEO today. They have held on to their equity as well: 153 of the CEOs hold all of their companies' stock, and 43% hold at least half. Of the 130 with less than a controlling interest, all but 39 share in at least a quarter of the company. Only 5 CEOs—including Dick Dotts, founder of #1 Pedus International (see page 60)—hold no equity whatsoever.

Almost four out of five of the INC. 500 companies have relied exclusively on internal growth. Of the 113 who made acquisitions, most were in the service sector, and most acquired only one or two similar operations. The Windham Co. (#273), a Pensacola, Fla.-based owner/manager of hotels, motels, and condominiums, is the list's acquisition leader, with 21 different purchases (and four sales) over the past four years; Windham often buys properties at foreclosure, then renovates them for eventual resale.

All but a handful of the INC. 500 ended fiscal 1983 with a healthy bottom line: 463 of the companies were profitable, including 34 that earned 16% or more of sales. Another 49 companies recorded profits between 11% and 15% of sales, 132 from 6% to 10%, and 248 from 1% to 5%. Over the five-year period from 1979 through 1983, 175 companies saw their earnings grow, 117 saw an earnings drop, and 208 stayed the same. Ninety-two companies reported losses in 1979; in 1983, only 26 were in the red.

The ability of the INC. 500 to generate new jobs is as impressive as their growth in sales. Employment at the 500 companies has increased 402.3% in the past five years, up from 11,668 to 58,605. The average company ended 1983 with 117 employees, 94 of them hired in the past five years. Employment leader Pedus International ended 1983 with 6,000 workers on the payroll, 5,923 hired since 1979.

Besides adding new workers, the 500 have also made their employees significantly more productive. Average sales per employee at an INC. 500 company stand at \$97,239, up from \$44,727 five years ago, an increase of 117%. Almost one-third of the companies on the list have seen productivity increases of more than 200%, and nine have seen increases of more than 1,000%. Encon Inc. (#5), a San Jose, Calif., manufacturer and distributor of computer peripherals, boasts an increase of 2,511% in productivity, up to \$265,304 from \$10,162 five years ago—in part, Encon CEO Ken Kapur explains, because the company shifted from nuclear consulting to peripherals, and in part “because our employees own the company, so they work harder.”

This year's INC. 500 is the magazine's third annual compilation of the nation's fastest-growing private companies. And although every year's list has certain obvious similarities, there are some notable differences between 1984's winners and those of previous years. Companies on the current list are the youngest in the history of the ranking. They are also the most productive and the fastest-growing—but their profits have dropped for the second consecutive year.

Increased productivity is the most dramatic change in the INC. 500 since the list's beginning. While the average company on the 1984 list is only slightly larger than last year, employing 117 rather than 115, each worker is responsible for 56% more in sales (\$97,239) than last year's \$62,467, and 59% more than the \$61,167 of the class of '82. This year also marks the first time that the INC. 500 companies have outperformed *Fortune* 500 companies in sales per employee; the latter averaged \$92,226 in 1983.

The companies on this year's list have

also grown the fastest of any group since the ranking began. The average company on the current list has grown from roughly \$1 million to \$11.4 million in sales over five years, an increase of 992%. The average company on last year's list had gone from \$1 million to \$8.8 million, an increase of 770%. For 1982, the increase was 571%. Ten companies on the 1982 and '83 lists had a growth rate over 5,000%; there were 20 this year. In 1982,

no longer fast enough to qualify, including 12 that recorded sales growth of more than 400%. Of the 208 companies that did return, only 55 climbed in their ranking. Sixty-three companies placed on the list three years running—but only 2, Sage Systems Inc. (#284) and Creative Management Systems Inc. (#85) have seen their rankings climb.

While the 1984 INC. 500 companies recorded faster growth than their 1983 counterparts, profitability slipped slightly for the second year in a row. This year's list includes only 83 companies recording profits of 11% or more of sales; last year's boasted 122. This year's list has 26 companies that ended the year with a loss; last year's had only 18. While this year's list has 8 fewer companies reporting a five-year drop in earnings, it also has 9 fewer companies with a five-year increase.

There have been changes in industry representation. There are more service companies this year, 205 compared with last year's 172, and more wholesalers, 77 compared with last year's 59. But there are less than half as many retailers, down to 34 from 73, and fewer manufacturers, down to 156 from 168. The largest increase has been in business and financial consultants, up to 35 from 22 last year, followed by real estate companies, up to 14 from 8. The largest decrease was in transportation companies, down to 15 from 27 last year, and food companies, down to 12 from 19. Industrial equipment and supplies, with 62 companies, and computer and related products, with 48, are the two largest categories.

There have been geographical changes as well. With 86 companies on this year's 500, California continues to dominate, followed by Texas with 38, Virginia with 32, New York with 31, and Florida and Ohio, each with 26. But California also recorded the largest drop in companies on the list, losing 14. Colorado lost 8, New York and Maryland lost 6, Massachusetts, Florida, and Wisconsin each lost 5. Virginia added the most, with 13 more companies on the list than last year, followed by Ohio with 10.

Where will the members of the 1984 INC. 500 go from here? As the recovery continues, most will keep on growing, already, in fact, 437 of the 500 report further employment increases since year-end, including 35 companies that have doubled their payroll. But the history of the rankings shows that few will be able to sustain the stunning growth rate that put them on the list. Some will go public. Others will be acquired. And a few will go under. But although many of the names and numbers on next year's list will certainly be different, small-business growth leaders like the INC. 500 will continue to fuel the nation's economic engine. □

TOP 10 PERFORMERS: TOTAL SALES

Rank	Company (INC. 500 rank)	1983 sales (\$000)
1.	Gemcraft Homes (19)	\$228,310
2.	Le Beacon Pressé (212)	158,000
3.	Continental Ozark (165)	154,634
4.	Chioke International (72)	117,203
5.	Forever Living Products (209)	90,400
6.	Louisiana Energy & Development (138)	77,396
7.	Harvin C. Moore (246)	74,924
8.	International Medical Centers (183)	72,620
9.	Travel Center (315)	72,304
10.	Mark III Industries (148)	71,449

TOP 10 PERFORMERS: SALES PER EMPLOYEE

Rank	Company (No. of employees)	Sales per employee
1.	Chioke International (10)	\$11,720,300
2.	Continental Ozark (19)	8,138,632
3.	Ugly Duckling Rent-A-Car Syst. (12)	3,125,000
4.	Investor Life Services (24)	2,518,083
5.	Miami Printing & Publishing (6)	1,773,667
6.	Majestic Steel Service (25)	1,681,878
7.	Brady Marketing (15)	1,403,333
8.	Duncan Oil (20)	1,175,863
9.	Marshall Lewis & Associates (11)	1,130,410
10.	LaMarca Group (23)	1,108,348

TOP 10 PERFORMERS EMPLOYMENT GROWTH

Rank	Company (No. of employees)	New employees 1979-83	Percent growth
1.	Pedus International (6,000)	5,923	7692%
2.	Soletron (1,500)	1,440	2400
3.	National Health Care (1,476)	1,418	2445
4.	Hall Real Estate Group (1,653)	933	130
5.	Healthcare Int'l. (1,700)	900	113
6.	Inmed (875)	850	3,400
7.	Advanced Technology (1,149)	819	248
8.	Syst. & Applied Sciences (850)	650	325
9.	Commonwealth Savings (757)	621	457
10.	Gemcraft Homes (621)	590	1,903

one company was over 10,000%; in 1983 there were two; in 1984 there are five.

That increased growth rate has intensified the competition for a place on the list. This year the cut-off line for membership was 432% sales growth, up from last year's 397% and 1982's 235%. Of the almost 300 companies from last year's list that failed to return, over half continued to grow, but

THE INC. 500 INDEX

- (3) ABC SUPPLY
Beloit, WI
- (161) ATCOM
Durham, NC
- (97) ACTION PACKETS
Ocala, FL
- (410) AD-TEX ENGINEERING
SERVICES Santa Ana, CA
- (99) ADMINISTRATIVE INFORMATION
SYSTEMS Bridgewater, NJ
- (449) ADVANCED CIRCUIT
TECHNOLOGY Nashua, NH
- (406) ADVANCED COMPUTER COM-
MUN. Santa Barbara, CA
- (49) ADVANCED INFORMATION
MANAGEMENT Boston, MA
- (348) ADVANCED SYSTEM
APPLICATIONS Bloomington, IL
- (432) ADVANCED TECHNOLOGY
Reston, VA
- (174) AERO DATA METAL CRAFTERS
Bohemia, NY
- (112) AERO PRODUCTS
Longwood, FL
- (397) ALACOM
Sunnyvale, CA
- (55) ALAMO LEARNING SYSTEMS
Walnut Creek, CA
- (459) ALUMAR ET CIE
Scottsdale, AZ
- (257) ALLAR-TIC
San Diego, CA
- (359) ALLEGRO SERVICES
Tucker, GA
- (90) ALLENBACH INDUSTRIES
Carlsbad, CA
- (44) ALLIANCE RESEARCH
Chattsworth, CA
- (435) ALLIED TIRE SALES
Altamonte Springs, FL
- (475) ALLTEST
Palatine, IL
- (73) ALOETTE COSMETICS
Malvern, PA
- (251) ALOPEX INDUSTRIES
San Marcos, CA
- (287) ALTUS
San Jose, CA
- (274) ALUCHEM
Cincinnati, OH
- (479) AMERICAN AGRIASSURANCE
Council Bluffs, IA
- (58) AMERICAN DIRECT RESPONSE
Raleigh, NE
- (32) AMERICAN LEISURE
INDUSTRIES Lanham, MD
- (46) AMERICAN LIST COUNSEL
Princeton, NJ
- (403) AMERICAN PASSAGE
MARKETING Seattle, WA
- (247) AMERICAN TECHNICAL
SERVICES Tucker, GA
- (305) AMPUCOM
Santa Ana, CA
- (461) AQUADNECK DATA
Middletown, RI
- (399) ARCON
Stewartville, MN
- (16) ARGOSY ELECTRONICS
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Xenia, OH
- (323) DYNAMIC SYSTEMS
McLean, VA
- (191) E & A INDUSTRIES
Indianapolis, IN
- (343) ETM ELECTROMATIC
Palo Alto, CA
- (267) EASTERN DENTAL CENTERS
Avenel, NJ
- (367) EASTWAY DELIVERY SERVICE
Houston, TX
- (450) EASY LIVING
Indianapolis, IN
- (229) ECONOMY RESTAURANT
EQUIPMENT Orlando, FL
- (167) EDD HELMS
Edmo, FL
- (405) EFFECTIVE MANAGEMENT
SYSTEMS Milwaukee, WI
- (292) ELCOMP SYSTEMS
Pittsburgh, PA
- (326) ELECTRO MECHANICAL DE-
SIGN Garthtersburg, MD
- (26) ELLA CONTRACTING
Houston, TX
- (192) ELLIOTT STORE FIXTURES
Lansing, MI
- (149) ELOGRAPHICS
Oak Ridge, TN
- (127) EMPIRE AIRWAYS
Hayden Lake, ID
- (5) ENCON
San Jose, CA
- (389) ENDLESS VACATION SYSTEMS
Indianapolis, IN
- (420) ENVIRONMENTAL MARKETING
GROUP Boca Raton, FL
- (416) ENVIRONMENTAL RESOURCES
MANAGEMENT W. Chester, PA
- (318) EQUITAC
Coral Gables, FL
- (466) ERECTION SPECIALTIES
Canton, MA
- (325) ESSEX GRAIN PRODUCTS
King of Prussia, PA
- (398) ETERNIA-LINE
Boise, ID
- (433) EURO REP
Tustin, CA
- (197) EXECUTONE TELECOM-
MUNICATIONS Reading, PA
- (124) EXECUTONE OF CENTRAL
FLORIDA Ft. Lauderdale, FL
- (141) EXECUTONE OF WESTERN
MASS. Worcester, MA
- (179) FKM COPPER PRODUCTS
Irvine, CA
- (28) FASTEC INDUSTRIAL
Elkhart, IN
- (20) FIFTH SEASON TRAVEL
Indianapolis, IN
- (302) FINALS, THE
New York, NY
- (260) FINANCIAL ASSOCIATES
Overland Park, KS
- (178) FISHER GRAPHIC INDUSTRIES
Modesto, CA
- (102) FISHER INSURANCE GROUP
Memphis, TN
- (338) FLEXIBLE PACKAGING
Hayward, CA
- (227) FLORIDA AZALEA SPECIALISTS
Ruskin, FL
- (209) FOREVER LIVING PRODUCTS
Phoenix, AZ
- (130) FORMSTORE
Fenton, MO
- (368) FORTUNA
Cambridge, MA
- (11) FOUR WINDS RENTAL
San Juan, PR
- (286) FUTURA COATINGS
St. Louis, MO
- (106) G & H TRANSPORTATION
Houston, TX
- (282) GAHTS
Virginia Beach, VA
- (150) GNP LOUDSPEAKERS
Pasadena, CA
- (500) GPA TECHNICAL
CONSULTANTS Cincinnati, OH
- (404) GAREY CONSTRUCTION
Austin, TX
- (163) GARTNER GROUP
Stamford, CT
- (19) GEMCRAFT HOMES
Houston, TX
- (65) GEMINI RESEARCH
Fremont, CA
- (462) GENERAL ALUM & CHEMICAL
Toledo, OH
- (255) GENERAL COMMUNICATIONS
Denver, CO
- (8) GENERAL MICRO
South Bend, IN
- (386) GENESSEE STAMPINGS
Arlington, TX
- (216) GENIE FILTER
Denville, NY
- (376) GEO-CENTERS
Merion Upper Falls, MA
- (418) GILA MEDICAL SERVICES
Claypool, AZ
- (329) GOAL SYSTEMS
INTERNATIONAL Columbus, OH
- (332) GOLDEN GATE REALTORS
Pittsburgh, PA
- (453) GORDON S. BLACK
Rochester, NY
- (384) GRAPHCO
Cleveland, OH
- (117) GREAT LAKES MICRO-
GRAPHICS Kalamazoo, MI
- (95) GULF STATES MORTGAGE
Atlanta, GA
- (388) H&B-SOFTRON
Metwath, NJ
- (104) HSC ENGINEERING
Towson, MD
- (128) HALL REAL ESTATE GROUP
Dallas, TX
- (206) HANLEY-WOOD
Washington, DC
- (417) HARMONY FOODS
San Diego, CA
- (120) HARPER & BUZINE ARCH-
TECTS Coral Gables, FL
- (246) HARVIN G. MOORE
Houston, TX
- (133) HAWAIIAN PACIFIC ELEVATOR
Honolulu, HI
- (9) HAYES MICROCOMPUTER
PRODUCTS Norcross, GA
- (444) HEALTHCARE INTERNATIONAL
Austin, TX
- (372) HERITAGE INSURANCE ASSOC.
Lancaster, PA
- (487) HERMENS AIR
St. Marys, AZ
- (166) HEURIKON
Madison, WI
- (77) HIATT AGENCY
Miamisburg, OH
- (473) HIDDEN VILLA RANCH
Placencia, CA
- (159) HILL INTERNATIONAL
Willingsboro, NJ
- (91) HOLAN INDUSTRIES
Scottsburg, IN
- (164) HOMEFINDERS RENTALS
Oakland, CA
- (151) HONOLULU PREMIUM PRO-
DUCTS Honolulu, HI
- (319) HOUSTON ART GLASS
ENTERPRISES Houston, TX
- (215) IBI SYSTEMS
New York, NY
- (409) IPL
Bail, CA
- (202) IMAGE STREAM
Los Angeles, CA
- (369) IMAHARA & KEEP
Sunnyvale, CA
- (93) INPSPECH
King of Prussia, PA
- (491) INCEPT
Dallas, TX
- (303) INDIANA RECORDS MANAGERS
Indianapolis, IN
- (171) INFORMATION BUILDERS
New York, NY
- (74) INFOTEC DEVELOPMENT
Costa Mesa, CA
- (125) INMED
Norcross, GA
- (31) INSTITUTIONAL FINANCING
SERVICES Benicia, CA
- (96) INSULATION TECHNOLOGY
Niles, IL
- (495) INTEGRAL SYSTEMS
Walnut Creek, CA
- (87) INTERACT
Asheville, NC
- (183) INTERNATIONAL MEDICAL
CENTERS Miami, FL
- (468) INTERNATIONAL METRIC
SUPPLY Dallas, TX
- (30) INTERNATIONAL ROOFING
Beloit, WI
- (407) INTERTEC COMPONENTS
Longwood, FL
- (379) INTERVAL INTERNATIONAL
Miami, FL
- (2) INVESTOR LIFE SERVICES
Cincinnati, OH
- (34) J. J. GRUNDY
Ottawa, IL
- (358) JBM ELECTRONICS
Hazelwood, MO

- (110) JWI
Holland, MI
- (252) JACKALOPE POTTERY
Santa Fe, NM
- (290) JEFFREY MICHAEL
Seattle, WA
- (103) JET-STER
Rochester, WA
- (198) JEWELL BUILDING SYSTEMS
Dallas, NC
- (320) JOHNSON & ASSOCIATES
Chicago, IL
- (239) KAMEX
Cleveland, OH
- (88) KAPPLER DISPOSABLES
Guntersville, AL
- (64) KASSOUF PARKING
Cleveland, OH
- (281) KELLY MCK
Woodville, WA
- (184) KIDDER INTERNATIONAL
Auburn, WA
- (349) KJWI FENCE SYSTEMS
Waynesburg, PA
- (414) KLUTZ
Palo Alto, CA
- (364) KOMFORT KOACH
Louisville, KY
- (424) L/T TECHNOLOGIES
Carson City, NV
- (185) LAMARCA GROUP
New York, NY
- (155) LABELGRAPHICS
Portland, OR
- (360) LAWSON ASSOCIATES
Minneapolis, MN
- (212) LE BEACON PRESSE
Seattle, WA
- (365) LEICHTUNG
Cleveland, OH
- (4) LELAND A. WOLF &
ASSOCIATES Foster City, CA
- (154) LENDER'S SERVICE
Pittsburgh, PA
- (245) LIGHTING HORIZONS
Carle Place, NY
- (428) LITTLEWOOD, SHAIN
Wayne, PA
- (438) LOST ARROW
Ventura, CA
- (138) LOUISIANA ENERGY &
DEVELOPMENT New Orleans, LA
- (439) LUFFRAM
Macedonia, OH
- (488) MD RESOURCES
Miami, FL
- (83) MAJESTIC STEEL SERVICE
Cleveland, OH
- (109) MANAGEMENT CONSULTING &
RESEARCH Falls Church, VA
- (176) MANAGEMENT EMPLOYEE
GROUP ADMIN. Milwaukee, WI
- (484) MARINE STRUCTURAL
APPLICATIONS Cumfries, VA
- (92) MARIPOSA PRESS
Benicia, CA
- (148) MARK III INDUSTRIES
Ocala, FL
- (385) MARKATRON
Norcross, GA
- (48) MARKDATA
Pittston, PA
- (238) MARKETING
COMMUNICATIONS Lenexa, KS
- (317) MARSHALL LEWIS &
ASSOCIATES Santa Ana, CA
- (63) MARTIN FOREST INDUSTRIES
Healdsburg, CA
- (38) MASTERCLEAN OF NORTH
CAROLINA Winston-Salem, NC
- (98) MAXIMA, THE
Bethesda, MD
- (84) MAXXIMA
Tallahassee, FL
- (285) McDONALD EQUIPMENT
Willoughby, OH
- (304) MEDICAL COPY SERVICES
Philadelphia, PA
- (322) MEGAS MANUFACTURING
Cleveland, OH
- (458) MEMPHIS GLOVE
Memphis, TN
- (172) MERIDIAN
Falls Church, VA
- (321) MERRILL
St. Paul, MN
- (111) METRO INFORMATION
SERVICES Virginia Beach, VA
- (254) METROCALL OF DELAWARE
Alexandria, VA
- (408) METRIWEB
Erlanger, KY
- (277) MEXI-SNAX
Hayward, CA
- (42) MIAMI PRINTING &
PUBLISHING Miami, FL
- (250) MICRO INDUSTRIES
Westerville, OH
- (101) MICROMEDIA MARKETING
Pasadena, CA
- (80) MICROSOFT
Bellevue, WA
- (7) MILLER MEDICAL DISTRIBUTORS
Aliso, OR
- (210) MILLER MEDICAL SERVICE
Waterloo, IA
- (469) MILLER OIL
Norfolk, VA
- (231) MINICRON SBC
New York, NY
- (68) MODULITE
Canoga Park, CA
- (276) MONEGON
Rockville, MD
- (89) MOSS BROWN
Alexandria, VA
- (265) MOTIVATIONAL ENTERPRISES
Louisville, KY
- (341) MOTIVATIONAL MARKETING
Paramus, NY
- (312) MR. GOODBUYS
Philadelphia, PA
- (465) N. C. O. INDUSTRIES
Riverside, CA
- (213) N. CHASEN & SON
Richmond, VA
- (314) NELCO
Richmond, VA
- (434) NEOPC
Leominster, MA
- (477) NACOM
Columbus, OH
- (144) NADY SYSTEMS
Oakland, CA
- (445) NATIONAL COMPUTER PRINT
Birmingham, AL
- (14) NATIONAL HEALTH CARE
AFFILIATES Buffalo, NY
- (447) NATIONAL TITLE
Houston, TX
- (243) NATIONAL TRADE
PRODUCTIONS Alexandria, VA
- (357) NEUTRON INDUSTRIES
Torrance, CA
- (218) NEXUS
Chicago, IL
- (115) NIGHT CAPS
Milwaukee, WI
- (370) NOEL JOANNA
Irvine, CA
- (299) NORTH AMERICAN FINANCIAL
SERVICES Denver, IA
- (41) NORTHLAND
ENVIRONMENTAL Burbank, CA
- (288) NORWICH TOGS
Forrestdale, MA
- (119) OVERSEAS SECURITIES
Aurora, IL
- (190) OCEAN SPECIALTY MFG.
Canoga Park, CA
- (182) OFFICE SYSTEMS
Charlotte, NC
- (496) OIL RECOVERY SYSTEMS
Norwood, MA
- (61) ORACLE
Menlo Park, CA
- (421) OSTARR COS., THE
LaGrange, IL
- (201) OWL ELECTRONIC LABS
Old Saybrook, CT
- (324) OXFORD SOFTWARE
Hasbrouk Heights, NJ
- (275) P E SYSTEMS
Alexandria, VA
- (381) PCI
Austin, TX
- (457) PCI ENERGY SERVICES
Lake Bluff, IL
- (412) PNS
Racine, WI
- (371) PACIFIC ENVELOPE
Anaheim, CA
- (460) PACIFIC TRADE GROUP
Waipahu, HI
- (263) PADGETT-THOMPSON
Overland Park, KS
- (454) PAR LABEL & TAPE
Kansas City, MO
- (429) PARMED PHARMACEUTICALS
Niagara Falls, NY
- (186) PAULSEL LUMBER
Fort Worth, TX
- (13) PAVION
Nyack-on-Hudson, NY
- (402) PAYDAY
San Francisco, CA
- (352) PEAK TECHNICAL SERVICES
Pittsburgh, PA
- (1) PEDUS INTERNATIONAL
Los Angeles, CA
- (481) PEERLESS UMBRELLA
New York, NY
- (118) PEPPERWOOD INT'L
Eugene, OR
- (306) PERENNIAL SOFTWARE
SERVICES Santa Clara, CA
- (47) PERFECT COURIER
New York, NY
- (244) PERTRON CONTROLS
Canoga Park, CA
- (181) PETER PIPER PIZZA
Phoenix, AZ
- (413) PETROLEUM WELL SERVICES
Sour Lake, TX
- (108) PIONEER/ECLIPSE
Sparta, NC
- (50) POLYCOAT SYSTEMS
Hudson Falls, NY
- (353) POLYCOM
Donora, PA
- (291) PRESSURE SYSTEM
Hampton, VA
- (486) PRETTY MEAT INDUSTRIES
Pompano Beach, FL
- (193) PRIME RESOURCES
Stamford, CT
- (249) PRIORITY 1 ELECTRONICS
Chatsworth, CA
- (142) PRODUCTION MANAGEMENT
Harvey, LA
- (153) PRODUCTIVITY TRAINING
San Jose, CA
- (493) PROFESSIONAL BANK
SERVICES Louisville, KY
- (217) PROFILE INDUSTRIES
Ft. Lauderdale, FL
- (346) PROFORMA
Euclid, OH
- (483) PROTEC MANAGEMENT
SYSTEMS Lafayette, CA
- (313) PSICOR
Brighton, MI
- (78) QUALITY HOME INSULATION
Walnut, CA
- (442) QUALOGY
San Jose, CA
- (230) R & B AUTOMOTIVE
Huntingdon Valley, PA
- (237) R & E ELECTRONICS
Wilmington, NC
- (228) R. J. MARSHALL
Detroit, MI
- (211) RAIL
Towson, MD
- (270) RSO
Laurel, MD
- (146) RT/ATEX
East Orange, NJ
- (208) R.W. ELECTRONICS
Tewksbury, MA
- (70) RENAISSANCE PRINTING
Detroit, MI
- (36) RENOVATOR'S SUPPLY, THE
Millers Falls, MA
- (195) RESOURCE CONSULTANTS
McLean, VA
- (391) RISING FAST TRUCKING
Batesville, AR
- (10) ROBEK
Montgomeryville, PA
- (311) ROBELLE INDUSTRIES
Stoughton, MA
- (456) ROBERTS WELDING
CONTRACTORS Winterville, NC
- (57) ROYAL SILK
Clifton, NJ
- (56) ROYAL WATERBEDS
St. Louis, MO
- (269) S. J. ELECTRO SYSTEMS
Detroit Lakes, MN
- (169) SAS INSTITUTE
Cary, NC
- (284) SAGE SYSTEMS
Rockville, MD
- (300) SALADALLEY RESTAURANTS
Philadelphia, PA
- (382) SALAZAR CONSTRUCTION
Corpus Cristi, TX
- (392) SAN ANTONIO DEVELOPERS
San Antonio, TX
- (278) SCHLOTT REALTORS
Fair Lawn, NJ
- (361) SCIENTIFIC CALCULATIONS
Fishers, NY
- (356) SCIPAR
Buffalo, NY
- (489) SEAVEX
Boston, MA
- (331) SEKO AIR FREIGHT
Schiller Park, IL
- (189) SELECTONE
Hayward, CA
- (15) SEMITOOL
Kalispeil, MT
- (378) SENECA BALANCE
Depew, NY
- (366) SETPOINT
Houston, TX
- (289) SHARPER IMAGE, THE
San Francisco, CA
- (22) SHELTER COMPONENTS
Elkhart, IN
- (135) SHIMAK LABORATORIES
East Hanover, NJ
- (393) SIEGEL RUGGIERO DESIGN
GRAPHICS New York, NY
- (383) SIERRA GEOPHYSICS
Redmond, WA
- (51) SIGAL CONSTRUCTION
Washington, DC
- (236) SILLERMAN-MORROW BROAD-
CASTING Middletown, NY
- (235) SINBAD SWEETS
Clovis, CA
- (394) SKYWAY FREIGHT SYSTEMS
Santa Cruz, CA
- (339) SLOTLINE GOLF
Huntington Beach, CA
- (27) SNAPPY CAR RENTAL
Beachwood, OH
- (380) SOFTWARE RESULTS
Columbus, OH
- (54) SOLECTRON
San Jose, CA
- (271) SONIC AIR COURIER
Los Angeles, CA
- (451) SPECTRA RESEARCH SYSTEMS
Newport Beach, CA
- (387) SPORT GRAPHICS
Cranston, RI
- (328) STAINMARK
Chicago, IL
- (470) STRAUB METAL SERVICE
Bear Creek, PA
- (225) SUMMA FOUR
Manchester, NH
- (498) SUN CIRCUITS
Santa Clara, CA
- (480) SUN HILL INDUSTRIES
Stamford, CT
- (203) SUNBELT DISTRIBUTORS
Houston, TX
- (492) SUNDOWN VITAMINS
Hollywood, FL
- (310) SUNSHINE BEAUTY SUPPLIES
Chatsworth, CA
- (471) SUNWESTERN PROPERTIES
Tulsa, OK
- (264) SUPPORT SYSTEMS
INTERNATIONAL Richmond, CA
- (345) SWIMEX
Rancho Cordova, CA
- (294) SWINTEC
East Rutherford, NJ
- (259) SYBEX
Berkeley, CA
- (426) SYSTEMS & APPLIED SCIENCES
Vienna, VA
- (419) SYSTEMS ARCHITECTS
Randolph, MA
- (241) SYSTEMS COORDINATION
Crystal River, FL
- (60) SYSTEMS, RESEARCH &
APPLICATIONS Arlington, VA
- (463) SYSTEMS STRATEGIES
New York, NY
- (427) T J MAC DERMOTT
Kingston, NH
- (242) TABS ASSOCIATES
Baltimore, MD
- (180) TSR
Lake Geneva, WI
- (17) TAURIO
Alexandria, VA
- (347) TECHNE ELECTRONICS
Palo Alto, CA
- (422) TECHNOLOGY
CONSTRUCTORS Denver, CO
- (396) TEX-AIDS INDUSTRIES
Arlington Heights, IL
- (478) TELCO RESEARCH
Nashville, TN
- (240) TELECHECK MICHIGAN
Oak Park, MI
- (441) TELECHECK SOUTHWEST
Houston, TX
- (295) TELECOMMUNICATIONS
SPECIALISTS Houston, TX
- (71) TESSCO
Georgetown, TX
- (170) TESTA COMMUNICATIONS
Carle Place, NY
- (301) TEXAS DRUG REPS
San Antonio, TX
- (67) THACKER JEWELRY
Roaring Springs, TX
- (485) THERMAL ENGINEERING OF
ARIZONA Tucson, AZ
- (139) THOMPSON
Hendersonville, NC
- (162) TOOL KING
Denver, CO
- (476) TRANSPD ELECTRONICS
Orlando, FL
- (315) TRAVEL CENTER
Anchorage, AK
- (262) TRI GLAS INDUSTRIES
Daleville, AL
- (233) TRITON
Washington, DC
- (53) TYKE INTERNATIONAL
Pleasant Hill, CA
- (232) U. A. (UNCLE ALBERT'S)
Hays, KS
- (132) U. S. ROBOTICS
Chicago, IL
- (268) UAI TECHNOLOGY
Durham, NC
- (129) UGLY DUCKLING RENT-A-CAR
SYSTEM Tucson, AZ
- (79) UNIFIED MORTGAGE
Cupertino, CA
- (499) UNIQ DIGITAL TECHNOLOGIES
Batavia, IL
- (363) UNITED DESIGN
Noble, OK
- (21) UNITED PERSONAL
COMPUTER Wallingford, CT
- (43) UNIVOX CALIFORNIA
Los Angeles, CA
- (12) VCA
Vienna, VA
- (40) VDS
Sacramento, CA
- (137) VANGUARD GROUPS
INTERNATIONAL Houston, TX
- (362) VANGUARD PLASTICS
McPherson, KS
- (66) VANGUARD TECHNOLOGIES
Fairfax, VA
- (168) VANNER
Columbus, OH
- (296) VANTAGE COMPUTER
SYSTEMS Wethersfield, CT
- (222) VIAR
Alexandria, VA
- (105) VIDEOLAND
Carrollton, TX
- (187) VIRGINIA TEXTILES
Richmond, VA
- (423) VISIBLE CHANGES
Houston, TX
- (123) VITAL SIGNS
Tolpore, NJ
- (258) VOCATIONAL TRAINING
CENTER St. Louis, MO
- (354) W-B SUPPLY
Pomona, CA
- (39) WALKER EXPLORATION
Houston, TX
- (76) WEATHERWANE WINDOW
Kirkland, WA
- (415) WEBB, MURRAY & ASSOCIATES
La Porte, TX
- (308) WEEKLEY HOMES
Houston, TX
- (100) WELDON ELECTRONICS
Plymouth, MN
- (373) WESMAC COMPUTER SYSTEMS
Paramus, NJ
- (472) WESTERN CONTROLS
North Salt Lake, UT
- (400) WILD & WOOLY NEEDLE-
CRAFTS Falls Church, VA
- (273) WINDHAM
Pensacola, FL
- (455) WINONA KNITTING MILLS
Winona, MN
- (344) WORDS & DATA
Shawnee Mission, KS
- (37) XMCO
McLean, VA
- (62) XMR
Santa Clara, CA
- (350) XTO
Liverpool, NY
- (261) YANKEE GROUP
Boston, MA
- (340) YANTIS
San Antonio, TX
- (395) ZBR PUBLICATIONS
Wilmington, MA
- (266) ZZZZZ TECHNOLOGIES
Houston, TX
- (256) ZENGER MILLER
Cupertino, CA
- (224) ZIP PRODUCTS
Mechanicsville, VA
- (59) ZOOM TELEPHONICS
Boston, MA

THE INC. 500

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions 79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
1. Pedus International Bldg. maint., security svcs.	15,707%	255%	\$60,539	\$383	D	F	6,000	77	4	1979
2. Investor Life Services Finan. svcs. to NYSE members	14,971	250	60,434	401	D	E	24	3	0	1979
3. ABC Supply Whistle, roofing, flooring prods.	13,972	244	14,279	101	C	D	49	1	5	1979
4. Leland A. Wolf & Associates Svcs. employee benefit plans	12,033	232	18,346	151	C	C	37	2	0	1979
5. Encon Mfr. & dist. peripherals & software	10,343	220	10,612	102	F	A	40	10	0	1979
6. Creative Output Management systems	9,805	215	10,400	105	C	F	90	4	0	1979
7. Microware Distributors Microcomputer hardware & software	9,494	213	12,069	126	D	D	27	1	0	1979
8. General Micro Microcomputer sales & svc.	8,163	201	19,500	236	D	F	150	8	5	1978
9. Hayes Microcomputer Products (4) Mfr. software & hardware peripherals	7,875	199	50,021	627	A	A	256	40	0	1978
10. Robec Microcomputers & peripherals	7,303	193	14,068	190	D	D	39	6	0	1978
11. Four Winds Rental (8) Housing rental & sales	7,074	191	13,200	184	D	D	23	2	0	1978
12. VCA Integration & mktg. microcomputer systs.	6,927	190	8,031	114	D	D	18	2	0	1974
13. Pavion Cosmetics	6,626	186	9,950	148	C	F	145	50	0	1976
14. National Health Care Affil. (193) Owns, operates nursing homes	6,494	185	30,596	464	C	E	1,476	58	14	1977
15. Semitool Semiconductor electronic equipment	6,452	185	6,668	102	C	F	85	7	0	1979
16. Argosy Electronics Mfr. hearing aids	5,885	178	6,642	111	C	F	95	11	0	1979
17. Taurio Engineering services	5,575	174	9,055	160	D	D	150	5	1	1978
18. Computer Alliance Resale of business computing systs.	5,274	171	6,843	127	D	B	94	3	1	1979
19. Gemcraft Homes Homebuilder	5,080	168	228,310	4,407	D	D	621	31	0	1978
20. Fifth Season Travel (3) Corporate-travel planning	5,009	167	24,780	485	D	F	25	10	0	1977
21. United Personal Computer Computer retail sales	4,731	164	24,734	512	D	D	87	5	0	1977
22. Shelter Components Suppl. comp. parts to housing, RV indus.	4,496	160	29,266	637	D	F	75	5	2	1979
23. CommTek Publishing company	4,444	160	5,156	113	C	F	75	2	0	1979
24. Dalsat Systs. eng., consul., mfg. for satel. comm.	4,320	158	4,420	100	F	A	33	13	0	1978
25. Commercial & Industrial Adm. (10/16) Third-party administration	4,270	157	36,500	835	D	E	58	6	0	1976

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*INC. estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
26. Ella Contracting Contracting: underground util. & paving	4,212	156	12,463	289	D	B	158	7	1	1978
27. Snappy Car Rental Daily car rental	4,149	155	30,382	715	B	F	500	30	0	1973
28. Fastec Industrial Whse. distrib. hardware, related prods.	4,121	155	11,544	273	D	F	60	6	2	1979
29. Bill Rodgers & Co. Running clothing	3,992	153	6,482	158	D	F	15	3	0	1978
30. International Roofing Roofing	3,990	153	4,960	121	C	B	75	3	0	1969
31. Institutional Financing Services School & youth organization fund-raising	3,963	152	32,500	800	C	E	450	12	0	1979
32. American Leisure Industries Travel company, membership travel card	3,932	152	4,977	123	D	F	35	6	0	1978
33. Dow Industries Construction engineering	3,800	150	11,700	300	C	E	35	3	0	1972
34. J. J. Grundy Sales, install., serv. of windows/doors	3,634	147	13,778	369	D	B	295	3	1	1979
35. Datastore Associates Computer retail sales	3,591	146	6,290	170	D	F	42	6	0	1977
36. Renovator's Supply, The Mail-order brass decorative hardware	3,553	146	9,567	262	C	B	75	15	2	1978
37. XMCO Defense-oriented professional services	3,433	144	9,554	270	C	F	143	11	0	1979
38. Masterclean of North Carolina General contractor	3,375	143	3,822	110	C	C	8	2	0	1976
39. Walker Exploration Exploration, prod. of oil & gas	3,342	142	4,555	132	C	C	30	1	0	1979
40. VDS (32) Video equipment	3,290	141	25,611	755	D	D	104	21	0	1977
41. Northland Environmental Renewable energy, conservation	3,155	139	4,972	153	C	D	30	5	0	1975
42. Miami Printing & Publishing Printing brokerage	3,145	139	10,642	328	A	A	6	1	0	1979
43. Univox California (98) High-technology equipment	3,123	138	35,448	1,100	A	A	255	48	0	1970
44. Alliance Research Electronic-parts supplier	3,053	137	5,679	180	B	A	30	2	0	1978
45. Cal-Pac Roofing Specialty tile roof contractor	3,040	137	12,345	393	D	F	170	32	0	1978
46. American List Counsel Mailing-list brokerage & mgmt.	3,004	136	7,920	255	D	D	24	4	1	1978
47. Perfect Courier Courier services	2,972	135	12,655	412	C	F	350	50	4	1979
48. Markdata (12) Direct marketing	2,933	135	9,130	301	B	A	261	25	1	1977
49. Advanced Information Mgmt. Computer services	2,900	134	3,157	105	C	E	89	14	0	1978
50. Polycoat Systems (18) Insulation roofing & coating materials	2,800	132	17,400	600	C	E	20	6	2	1978
51. Sigal Construction (1) Construction mgmt. services	2,745	131	32,611	1,146	D	C	70	10	0	1976
52. Commonwealth Savings (19) Financial services	2,692	130	63,434	2,272	C	C	757	136	11	1977
53. Tyke International (17) Educational toys sales	2,670	129	25,682	927	F	D	100	25	0	1977
54. Soletron Electronics mfg.	2,588	128	32,662	1,215	C	D	1500	60	0	1977
55. Alamo Learning Systems (111) Software training systems	2,575	127	4,146	155	A	C	17	2	1	1979
56. Royal Waterbeds (164) Waterbed specialty stores	2,547	127	3,891	147	C	B	100	2	0	1977
57. Royal Silk (21) Silk fashions sold via catalog	2,536	127	17,150	651	D	D	100	8	0	1978
58. American Direct Response Card deck publisher	2,478	125	3,867	150	A	A	43	3	0	1979
59. Zoom Telephonics (71) Voice/data telecomm. peripherals	2,450	125	5,859	230	C	C	40	3	0	1977
60. Systems, Research & Application Computer & mgmt. services	2,411	124	4,770	190	D	C	89	6	0	1978

*RAC estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
61. Oracle (82) Computer software development	2,398	124	5,070	203	B	F	51	10	0	1977
62. XMR Laser systems (purchases components)	2,385	123	3,488	140	F	E	60	3	0	1979
63. Martin Forest Industries Wholesale lumber brokers	2,379	123	5,268	213	D	D	6	4	0	1979
64. Kassouf Parking (22/25) Operates parking lots	2,371	123	5,755	233	D	C	109	16	0	1972
65. Gemini Research Semiconductor process equipment	2,369	123	9,393	380	B	A	80	6	0	1979
66. Vanguard Technologies ADP systs. devel., facilities mgmt.	2,357	123	7,870	320	C	C	325	15	0	1979
67. Thacker Jewelry Mfr. jewelry, wholesale & retail	2,314	122	2,789	116	C	C	19	3	0	1979
68. Modulite (25) Mfr. modular lighting fixtures	2,277	121	7,510	316	D	D	87	18	1	1977
69. Decker Supply Highway-safety products	2,256	120	2,365	100	D	D	35	5	0	1979
70. Renaissance Printing Financial & legal sales/service centers	2,210	119	6,523	282	D	D	120	20	0	1977
71. Tessco (130) Subcont. mfr. cable & harness assemblies	2,202	119	14,054	610	D	D	248	44	1	1977
72. Chioke International (317) Export mgmt.	2,184	119	117,203	5,131	C	D	10	4	0	1970
73. Aloette Cosmetics Cosmetic direct sales via home shows	2,139	118	8,464	378	B	D	14	6	0	1978
74. Infotec Development Space systems	2,100	117	5,979	272	D	D	101	8	0	1978
75. Commonwealth Mortgage (68) Mortgage banker	2,060	116	10,800	500	C	C	220	20	0	1963
76. Weathervane Window Mfr. wood windows	2,018	115	4,246	200	D	F	75	11	0	1979
77. Hiatt Agency Administers & mkts. insurance programs	2,003	114	2,522	120	D	F	38	6	0	1968
78. Quality Home Insulation (37) Home energy installations	1,994	114	4,720	225	F	A	73	8	1	1976
79. Unified Mortgage (34) Mortgage banking company	1,972	113	13,805	666	D	D	169	16	0	1972
80. Microsoft Microcomputer software	1,967	113	50,000	2,418	B	B	342	25	0	1974
81. Computer Dynamics Computer engineering services	1,944	113	3,148	154	B	D	128	8	0	1979
82. Basic Computer Personal-computer sales	1,921	112	12,283	608	D	C	95	5	1	1977
83. Majestic Steel Service Distr. prime sheet & coil products	1,920	112	42,047	2,082	D	D	25	5	0	1979
84. Mazzima Develops & sells computer software	1,916	112	8,651	429	D	C	67	15	1	1977
85. Creative Mgmt. Systems (394/465) Software	1,916	112	2,606	129	A	D	40	7	0	1976
86. Condor D. C. Power Supplies Mfr. electronic subassemblies	1,881	111	10,046	507	D	F	250	18	0	1979
87. Interact Distr. computer products	1,856	110	9,685	495	D	D	43	27	0	1978
88. Kappler Disposables (97) Mfr. disposable industrial clothing	1,839	110	5,836	301	D	F	125	35	0	1976
89. Moss Brown (101) Running & outdoor gear	1,831	110	7,501	388	D	C	57	6	0	1977
90. Allenbach Industries Computer software duplication	1,823	109	3,825	199	F	C	21	4	0	1978
91. Holm Industries Mfr. vinyl, magnetic extrusions	1,818	109	8,439	440	D	F	313	64	0	1978
92. Mariposa Press Heatset web printing	1,743	107	8,038	436	D	F	67	21	0	1978
93. InSpeech (84) Speech & audiology programs	1,685	106	2,285	128	C	C	91	11	0	1978
94. Consolidated Group Administers employee-benefit plans	1,665	105	21,500	1,218	C	D	165	25	0	1971
95. Gulf States Mortgage (283) Mortgage services	1,664	105	5,194	295	C	E	92	9	1	1962

*INC. estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Breakover; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions 79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
96. Insulation Technology Industrial insulation products	1,636	104	2,493	144	B	F	72	9	0	1979
97. Action Packets (92) Distr. gift-shop items	1,630	104	2,140	124	D	D	14	4	0	1976
98. Maxima, The Integrated information tech. service	1,612	103	7,932	463	F	C	250	29	0	1978
99. Administrative Info. Systems (243) Medical software & hardware systems	1,601	103	2,044	120	A	F	14	5	0	1977
100. Weldon Electronics Retail sales of microcomputers	1,584	103	22,266	1,322	D	F	100	7	0	1978
101. Micromedia Marketing (278) Personal computer books & software	1,582	103	5,607	333	D	C	17	4	0	1976
102. Fisher Insurance Group Aviation property & casualty insurance	1,576	102	2,280	136	F	F	9	3	0	1979
103. Jet-Ster SPA manufacturer	1,574	102	2,297	137	C	F	26	12	0	1977
104. HSC Engineering Design consult. engineers & constructors	1,569	102	6,716	402	B	A	76	17	0	1976
105. Videoland Retail TV, video & consumer electronics	1,551	102	32,645	1,977	D	D	299	15	0	1979
106. G&H Transportation Local & interstate common carrier	1,545	101	4,347	264	C	D	25	15	0	1979
107. Carbide Technologies Tungsten carbide products	1,532	101	1,811	111	C	E	30	6	0	1979
108. Pioneer/Eclipse Floor cleaning equip. & chemicals	1,530	101	4,550	279	D	E	40	6	0	1978
109. Mgmt. Consulting & Research Defense consulting	1,526	101	2,027	125	D	C	32	8	0	1977
110. JWI Filtration & process equipment	1,519	101	4,465	276	C	A	37	2	0	1977
111. Metro Information Serv. (216/105) Computer software products & services	1,513	100	1,964	122	C	C	61	2	0	1973
112. Aero Products Distributes emergency medical equip.	1,508	100	3,218	200	D	D	9	1	0	1979
113. Biesemeyer Manufacturing Precision equip. for woodworking indus.	1,492	100	1,774	111	A	A	32	2	0	1978
114. ComDesign (55) Datacommunications equipment	1,491	100	4,185	263	C	F	55	8	0	1977
115. Night Caps Waterbeds & waterbed products	1,487	100	1,680	106	B	D	12	5	1	1979
116. ComputerLand of San Francisco Retail computer stores	1,486	100	10,147	640	C	D	60	12	0	1977
117. Great Lakes Micrographics Specialized photo films; processing labs	1,478	99	3,781	240	C	C	20	6	0	1977
118. Pepperwood International Toy & novelty products, rubber stamps	1,466	99	3,377	216	C	B	126	15	0	1977
119. Oberweis Securities Discount commission stockbrokerage	1,461	99	7,959	510	D	D	100	10	2	1977
120. Harper & Buzinec Architecture & engineering	1,455	99	1,619	104	D	E	45	3	0	1979
121. Burdick's Computer Store (14) Retail computer sales	1,446	98	15,818	1,023	B	C	61	2	0	1978
122. Central Data Mfr. of Multibus board products	1,444	98	4,704	305	D	F	66	13	0	1977
123. Vital Signs (96/54) Anesthesia & respiratory products	1,420	97	8,756	576	D	D	35	10	0	1972
124. Executone of Central Florida Interconnect & health-care comm.	1,418	97	4,261	281	D	C	49	5	0	1969
125. Inmed Medical supplies & industrial gauze	1,411	97	31,217	2,066	D	D	875	25	3	1975
126. CEI Electronic power supplies test equipment	1,409	97	1,517	101	D	E	61	5	0	1977
127. Empire Airways (79) Commuter airline	1,406	97	2,318	154	D	D	30	5	1	1977
128. Hall Real Estate Group (110) Real estate service company	1,404	97	62,063	4,126	A	A	1653	720	1	1969
129. Ugly Duckling Rent-A-Car (183) Used rental car franchising	1,399	97	37,500	2,501	D	D	12	3	0	1978
130. FormStore Business forms	1,383	96	1,490	100	D	F	18	3	0	1979

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Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
131. Corby Industries Mfr. digit. access key for secur. indus.	1,376	96	1,801	122	D	C	12	5	0	1975
132. U.S. Robotics Market data communications equipment	1,366	96	6,790	463	A	C	150	6	0	1976
133. Hawaiian Pacific Elevator Elevator contractor	1,347	95	2,404	166	D	D	35	2	0	1977
134. Centrac Associates Architectural/engineering consultants	1,346	95	1,905	132	C	D	41	5	0	1978
135. Sidmak Laboratories OTC & prescription drugs	1,344	95	7,385	511	D	F	82	10	0	1979
136. Comsel Comput. periph. equip. sales, rental, serv.	1,331	95	3,235	226	C	A	13	1	0	1978
137. Vanguard Groups International (45) Real estate syndicator & oil producer	1,324	94	8,172	574	B	B	43	6	0	1978
138. Louisiana Energy & Development Natural gas gathering, trans., distr.	1,316	94	77,396	5,464	D	D	85	32	0	1978
139. Thompson Residential developer/builder	1,307	94	5,845	416	D	D	37	5	0	1979
140. Computer Hardware Sales Buy, sell, lease IBM computer equipment	1,299	93	12,498	893	D	D	12	1	0	1979
141. Executone of Western Mass. Supplies business telecomm. systems	1,295	93	2,570	184	D	F	32	8	0	1978
142. Production Management (116) Oil & gas service	1,289	93	28,137	2,025	D	C	325	75	0	1971
143. Byte Shops Northwest Retail computer sales	1,279	93	8,621	625	D	C	68	10	1	1976
144. Nady Systems (23) Wireless electronics	1,278	93	5,610	407	D	D	66	18	0	1977
145. Comtex Information Systems Computer software & consultants	1,278	93	3,609	262	D	E	21	5	0	1978
146. RT/Katek (219 & 102/75) Cable TV install., converter services	1,272	92	17,645	1,286	D	C	285	40	2	1972
147. Carl Beavers, Jr. Construction Residential & commercial construction	1,269	92	1,477	108	B	B	8	1	0	1978
148. Mark III Industries Mfr. RVs & van conversion	1,268	92	71,449	5,224	D	D	209	50	0	1978
149. Elographics (299) Mfr. computer peripherals	1,261	92	3,165	233	A	B	40	8	0	1971
150. GNP Loudspeakers (415) Audio/video computer systems	1,255	92	1,401	103	D	D	9	2	0	1977
151. Honolulu Premium Products Mfr. jewelry	1,248	92	1,540	114	C	C	20	4	0	1979
152. Columbia Woodworking Mfr. custom cabinet, general contracting	1,239	91	4,198	313	D	D	65	10	0	1978
153. Productivity Training Develops management training systems	1,238	91	1,414	106	B	F	9	2	0	1977
154. Lender's Service (129) Mortgage services	1,229	91	16,316	1,228	D	D	301	106	0	1967
155. Labelgraphics Produces pressure-sensitive labels	1,222	91	1,395	106	A	B	20	2	0	1979
156. Databank Retail computer sales	1,209	90	10,934	835	C	E	85	10	0	1978
157. Baker Communications Training & development company	1,208	90	1,635	125	A	E	4	2	0	1979
158. Brouger International (46) Insurance & underwriting mgmt. services	1,207	90	9,449	723	D	A	127	15	2	1972
159. Hill International (62/19) Mgmt. consultants to construction indus.	1,207	90	15,800	1,209	C	C	285	48	3	1976
160. Connecticut Radio Network Media services	1,198	90	1,992	153	D	E	18	5	0	1971
161. ATCOM Telecomm. sales, design, & service	1,197	90	2,078	160	C	F	38	4	0	1979
162. Tool King (231) Specialty retailer	1,196	90	6,549	505	D	E	47	8	0	1978
163. Gartner Group Info. services for high-tech industry	1,196	90	8,850	683	E	F	89	15	0	1979
164. Homefinders Rentals Sells info. on resident. rental vacancies	1,189	89	1,671	130	C	A	24	4	0	1970
165. Continental Ozark Mktg. distribution of petroleum prods.	1,189	89	154,634	12,000	D	D	19	8	0	1977

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Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
166. Heurikon (266) Mfr. microcomputer boards & systems	1,188	89	4,029	313	C	A	46	12	0	1972
167. Edl Helms (72) Electrical contracting	1,170	89	12,175	959	D	C	180	35	1	1975
168. Vanner (132) Electronic products	1,169	89	1,588	125	C	C	24	9	1	1977
169. SAS Institute (108/46) Computer software	1,167	89	30,930	2,441	B	B	369	35	0	1976
170. Testa Communications Publishes trade & consumer magazines	1,157	88	2,338	186	D	F	18	4	0	1979
171. Information Builders Proprietary computer software	1,152	88	33,481	2,675	A	A	200	45	0	1975
172. Meridian R&D mgmt. & technical professional svcs.	1,151	88	3,929	314	F	A	70	8	1	1978
173. Church Insurance Consultant (59) Insurance sales	1,150	88	4,245	340	D	F	26	4	1	1977
174. Aero Data Metal Crafters Precision sheet metal parts	1,139	88	1,241	100	D	A	25	4	0	1979
175. Den-Mat Develops dental products	1,138	88	10,197	824	D	D	200	40	0	1968
176. Mgmt. Employee Group Admin. Group insur. & employee benef. admin.	1,134	87	22,115	1,792	D	E	61	8	0	1974
177. Contextural Design Furniture design & manufacturing	1,130	87	2,067	168	D	A	80	10	0	1978
178. Fisher Graphic Industries Mfr. & mkt. flexographic printing plates	1,124	87	1,272	104	D	F	30	8	0	1978
179. FKM Copier Products Sale & svc. of copy machines, supplies	1,119	87	5,036	413	D	B	35	9	1	1979
180. TSR (51/22) Publishes books, games, & accessories	1,105	86	26,705	2,217	F	C	270	29	0	1975
181. Peter Piper Pizza (131) Pizza-restaurant chain	1,098	86	20,617	1,720	C	C	90	50	1	1973
182. Office Systems (433) Computer sales	1,098	86	3,824	319	D	D	36	15	0	1972
183. International Medical Centers Health maintenance organization	1,097	86	72,620	6,066	C	D	600	149	0	1972
184. Kidder International Mfr. waterskis & accessories	1,095	86	2,806	235	D	F	25	5	0	1979
185. LaMarca Group (155/111) Advertising media & marketing services	1,086	86	25,492	2,149	B	B	23	3	0	1975
186. Paulsel Lumber (288) Wholesale lumber & investments	1,085	86	8,219	694	C	A	16	6	0	1945
187. Virginia Textiles (104/83) Imprinted sportswear	1,081	85	7,174	608	D	C	42	17	1	1976
188. Comp Fast Elect. components distrib. businesses	1,080	85	9,295	788	D	E	51	8	1	1977
189. Selectone Tone signaling equipment	1,077	85	2,047	174	D	E	38	8	0	1979
190. Ocean Specialty Manufacturing Mfr. plastic specialty products	1,076	85	2,654	226	D	F	33	15	0	1977
191. E&A Industries (196/41) Mfr. chem., compon. for jet engines	1,067	85	6,681	572	C	C	85	10	1	1977
192. Elliott Store Fixtures Restaurant equipment & supplies	1,062	85	1,452	125	D	E	18	2	1	1945
193. Prime Resources (114) Advertising specialties & premiums	1,055	84	2,079	180	C	C	40	11	1	1978
194. Audio Command Systems (170) Mfr. & install remote control systems	1,048	84	2,010	175	A	E	37	8	1	1978
195. Resource Consultants Professional svcs. to federal government	1,042	84	6,317	553	C	C	120	35	0	1979
196. B. W. Levy Security Consultants (100) Security consulting & services	1,042	84	2,900	254	B	A	160	30	0	1975
197. Executone Telecommunications (245) Telephone svcs. sales, installation	1,041	84	3,241	284	F	F	46	6	1	1947
198. Jewell Building Systems (206/175) Mfr. metal prefab buildings	1,041	84	5,029	441	D	F	35	7	0	1977
199. Central Mass Media (139) Publishes regional magazines	1,037	84	1,936	170	D	F	48	8	0	1976
200. Diversified Systems (123) Technical engineering mfg./services	1,026	83	3,253	289	C	B	42	15	0	1973

*INC. estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit margin*		No. of employees		Acqui- sitions 79-83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
201. Owl Electronic Laboratories Mfr. microprocessor-based products	1,025	83	1,991	177	D	F	32	8	0	1978
202. Image Stream (107) Audio/visual productions	1,019	83	2,432	217	D	D	20	4	0	1978
203. Sunbelt Distributors Frozen food products	1,017	83	5,620	503	D	D	25	5	0	1977
204. Dest Mfr. automatic document scanners	1,015	83	11,045	991	B	F	84	41	0	1970
205. Comark (42/48) Computer hardware, supplies, access.	1,012	83	6,032	542	D	D	28	5	1	1977
206. Hanley-Wood Publishes magazines	1,007	82	5,933	536	D	C	38	5	2	1976
207. Biagge Enterprises Distr. blank audio, video tapes	991	82	4,457	409	D	D	11	3	0	1977
208. R.W. Electronics Distr. electronic components	989	82	10,684	981	A	A	10	3	3	1979
209. Forever Living Products (5) Mfr. & distributes aloe vera products	976	81	90,400	8,400	D	C	302	7	15	1978
210. Miller Medical Service Supplies medical equip. & supplies	976	81	2,384	222	B	A	47	5	0	1978
211. RAIL (186) Engineering & analytical services	974	81	12,607	1,174	D	E	125	30	0	1970
212. Le Beacon Pressé Who's Who reference directories	968	81	58,000	14,800	A	A	147	114	5	1975
213. N. Chasen & Son Contract furniture dealership	965	81	12,339	1,159	D	D	70	45	0	1914
214. Best Choice (260) Retail & mail-order sporting goods	964	81	1,981	186	D	E	13	5	0	1972
215. IMI Systems Computer systems development	962	81	6,320	595	C	A	130	20	0	1979
216. Genie Filter (274) Designs business machine air filters	962	81	4,338	408	C	B	60	10	1	1973
217. Profile Industries Vertical-blind systems	962	81	4,333	408	F	F	75	30	0	1978
218. Nexus Advertising agency	960	80	1,294	122	B	A	15	4	0	1978
219. Conquest Associates Electronics industry recruitment	960	80	1,314	124	D	F	24	6	0	1979
220. Brady Marketing (138/104) Markets gourmet cookware	953	80	21,050	2,000	C	E	15	4	0	1976
221. Custom Van of Utah Van conversions	947	80	2,588	247	D	D	29	9	0	1976
222. Viar (184) Mgmt. services & software	945	80	11,827	1,132	D	C	63	23	0	1976
223. Champion Trophy Awards, printed apparel & ad. specialties	942	80	1,310	126	C	C	20	3	1	1970
224. Zip Products Mail-order auto parts for old Corvettes	941	80	1,247	120	D	D	8	1	0	1977
225. Summa Four (30) Mfr. microproc.-based telecomm. sys.	936	79	6,399	617	C	F	38	12	0	1976
226. Creative Resources Advertising, design, catalog prod., photo.	934	79	3,822	370	D	C	48	8	0	1978
227. Florida Azalea Specialists Grows azaleas	923	79	1,374	134	C	F	23	5	0	1978
228. R. J. Marshall Mkts. & process. indus. minerals & chem.	921	79	3,421	335	D	D	13	1	0	1978
229. Economy Restaurant Equipment Restaurant equipment & supplies	921	79	1,052	103	C	C	11	1	0	1979
230. R&I Automotive Aftermarket auto mfr. & distributor	920	79	7,936	778	D	D	100	60	0	1978
231. Mincron SBC Software services & package sales	914	78	1,276	126	C	D	32	4	0	1979
232. U. A. (Uncle Albert's) Clothing	912	78	1,706	169	F	D	44	16	0	1978
233. Triton (153) Management consulting	910	78	2,614	259	D	E	40	6	0	1978
234. Dilithium Press (178) Publ. microcomputer books & software	908	78	4,902	486	D	F	37	8	0	1977
235. SinBad Sweets Wholesale bakery	907	78	1,386	138	C	F	20	3	0	1978

*WC, estimate; A, 16% or more; B, 11% to 15%; C, 6% to 10%; D, 1% to 5%; E, Break-even; F, Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
236. Silberman-Morrow Broadcast. (13) Owns & operates radio, TV stations	906	78	10,300	1,024	A	C	160	25	9	1978
237. R&E Electronics (386) Communication systems integrator	906	78	1,842	183	D	D	30	8	0	1952
238. Marketing Communications (270) Direct-mail advertising	900	78	9,768	977	B	B	86	30	0	1969
239. Kanex Office automation dealer	898	78	3,192	320	D	C	55	4	0	1978
240. TeleCheck Michigan Check authorization	897	78	1,467	147	C	F	28	10	0	1979
241. Systems Coordination Computer software development	896	78	5,821	585	C	C	120	20	0	1975
242. TIMES Associates (182) Press'n mail service	888	77	4,641	470	D	D	502	178	1	1977
243. National Trade Productions Marketing firm	888	77	1,784	181	C	D	8	3	0	1976
244. Partron Controls (367/125) Microprocessor programmable controls	877	77	8,838	905	D	C	84	14	0	1975
245. Lighting Horizons Commercial lighting fixtures	873	77	7,250	745	D	D	18	8	0	1978
246. Harvin C. Moore Real estate activities	873	77	74,924	7,702	D	D	150	75	0	1974
247. American Technical Serv. (221/130) Instrument control systems	872	77	30,602	3,147	D	D	400	75	1	1975
248. Boston Acoustics Mfr. home & automobile speakers	871	77	8,559	882	C	D	75	25	0	1979
249. Priority 1 Electronics (31) Computer & electronic components	867	76	20,469	2,117	C	C	105	14	0	1977
250. Micro Industries Manufacturing & engineering services	864	76	2,149	223	F	B	30	6	0	1979
251. Alpes Industries (194) Mfr. automatic swimming pool cleaner	862	76	16,347	1,699	C	A	72	31	0	1957
252. Jackalope Pettery (329) Retail & wholesale imports	860	76	1,917	200	C	B	28	6	0	1976
253. Compendium Systems Publishes magazines	850	76	7,600	800	A	A	13	7	0	1978
254. Metracal of Delaware Service & sales of cellular phones	850	76	8,578	903	F	A	87	9	3	1969
255. General Communications (112) Publishes magazines	839	75	1,928	205	C	E	33	8	4	1978
256. Zenger Miller Market management training systems	838	75	7,132	760	C	B	75	10	0	1977
257. Allair-Tic Finance & leasing; mfr. exercise equip.	837	75	9,039	965	C	F	58	10	2	1974
258. Vocational Training Center (418/358) Private trade school	832	75	2,210	237	D	D	90	10	0	1961
259. Sybex (364) Publishes computer books	818	74	10,100	1,100	C	C	110	40	0	1976
260. Financial Associates (181) Marketing brokerage	817	74	8,809	960	A	A	21	4	0	1976
261. Yankee Group (151/70) Market analysis in high technology	817	74	10,100	1,101	A	A	52	12	0	1977
262. Tri Glas Industries (66) Truck & van tops, related accessories	815	74	6,800	743	D	D	197	73	0	1973
263. Padgett-Thompson (144) Business training seminars	808	74	10,958	1,207	A	A	34	7	0	1978
264. Support Systems International (56) Mfr. electronic cable	807	74	2,858	315	C	A	55	14	0	1976
265. Motivational Enterprises Distr. specialty advertising	806	74	1,074	118	D	F	10	2	0	1979
266. ZZYZZX Technologies (49) Commer. construction, genl. contractor	803	73	17,265	1,911	D	E	200	50	0	1976
267. Eastern Dental Centers Mgmt. & delivery of dental-care services	800	73	20,379	2,263	C	C	500	100	6	1976
268. UNI Technology Data mfg. & cash-management services	797	73	2,360	263	D	C	30	5	1	1978
269. S. J. Electro Systems Liquid level controls	791	73	1,109	125	B	B	17	3	0	1975
270. RSO Safety equip. sales to nuclear indus.	788	73	1,820	205	D	F	22	5	0	1974

*INC. estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acquisitions 79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
271. Sonic Air Courier (469/122) Air courier & messenger	787	73	27,804	3,133	C	A	150	95	1	1976
272. Dorman Bogdonoff (268/91) Mfr. flat-panel keyboards	780	72	6,519	741	D	F	172	24	0	1977
273. Windham (253/230) Owns & manages real estate	778	72	39,500	4,500	A	E	750	200	21	1973
274. AhuChem Industrial minerals supplier	774	72	4,665	534	D	F	60	12	0	1978
275. P E Systems (89/227) Communications systems	773	72	9,424	1,080	D	C	140	45	0	1971
276. Monegon Renewable energy systems	770	72	3,201	368	D	E	50	20	1	1979
277. Mexi-Snax Mfr. tortilla chips	766	72	984	114	B	E	15	6	0	1977
278. Schlott Realtors Real estate services	766	72	10,500	1,212	B	A	96	19	3	1971
279. DLS Industries (191) Precision metalworking	765	71	13,848	1,601	F	B	275	30	2	1973
280. Bruce W. Eberle & Associates Direct marketing agency	764	71	4,650	538	C	C	130	21	0	1974
281. Kelly McK Mfr. steel fabrication	762	71	1,623	188	B	F	7	3	1	1979
282. GAHTS Wholesaler & retailer of spa equip.	761	71	1,595	185	D	D	12	4	0	1978
283. Attridge Heating & Cooling (237/210) Mfr. evaporative cooling systems	757	71	1,731	202	D	E	14	10	0	1975
284. Sage Systems (390/409) Computer software products	755	71	8,119	950	D	C	130	25	0	1973
285. McDonald Equipment Engines & engine generating sets	752	71	27,063	3,175	D	D	57	18	1	1968
286. Futura Coatings Mfr. industrial coatings	750	71	8,896	1,046	C	C	56	5	1	1979
287. Altus (328) Mfr. batteries & portable power sources	750	71	14,562	1,712	F	F	490	106	2	1976
288. Norwich Togs (370) Mfr. apparel	750	71	4,250	500	D	F	75	50	0	1976
289. Sharper Image, The (76/15) Direct marketing	747	71	69,713	8,228	D	D	180	25	0	1977
290. Jeffrey Michael Mfr. men's apparel	746	71	2,835	335	F	F	35	6	3	1979
291. Pressure System Mfr. electronic instrumentation	740	70	1,708	203	C	C	23	7	0	1977
292. Elcomp Systems Mfr. medical software	737	70	1,212	145	D	A	8	2	0	1978
293. Baker Installations Cable-installation contractor	733	70	2,801	336	C	B	101	12	0	1976
294. Swintec Electronic office products	732	70	14,454	1,738	C	F	26	12	0	1978
295. Telecommunications Spec. (134/82) Rental, sales & service of phone systs.	729	70	18,882	2,277	B	B	217	75	0	1974
296. Vantage Computer Systems Develops & sells computer software	725	70	10,559	1,279	D	F	192	25	0	1970
297. Conservatree Paper (341) Wholesales & distr. recycled paper	721	69	6,205	756	E	F	7	4	0	1977
298. Craico (463/156) Mfr. pavement-maintenance products	712	69	14,625	1,802	C	C	65	12	0	1976
299. North American Financial Serv. Consulting & data processing services	709	69	7,860	971	D	D	167	27	1	1976
300. Saladalley Restaurants Soup & salad restaurants	706	68	2,263	281	D	D	180	45	0	1978
301. Texas Drug Reps Wholesale distributor of generic drugs	705	68	3,527	438	D	D	16	6	0	1976
302. Finals, The (147/55) Mfr. & distributes swimwear	703	68	6,400	797	C	E	40	5	0	1976
303. Indiana Records Managers (199) Office systems & equipment	701	68	5,004	625	D	D	36	9	1	1976
304. Medical Copy Services Legal service	699	68	1,360	170	B	B	30	5	0	1979
305. Amplicon Leasing	692	68	23,821	3,008	C	C	22	7	0	1977

*PNC estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
306. Perennial Software Serv. (472) Microcomputer software services	691	68	2,908	368	B	A	50	3	0	1973
307. CEM (60) Analytical instrumentation biotechnology	691	68	3,001	379	B	C	38	8	0	1971
308. Weekley Homes (173) Residential construction	687	68	53,728	6,824	C	D	74	24	0	1976
309. Cooper Consultants (230) Construction & design mgmt. services	687	68	3,207	407	D	B	75	12	1	1976
310. Sunshine Beauty Supplies (406) Beauty aids	687	68	3,814	484	D	C	62	12	0	1973
311. Robelle Industries (192) Wholesale recreation products	685	67	11,765	1,499	D	D	95	5	4	1976
312. Mr. Goodbuys Retail warehouse stores	685	67	26,208	3,340	C	D	250	25	0	1978
313. Psacor (395/123) Medical services & technology	683	67	10,151	1,296	C	D	99	12	0	1968
314. NELCO Computer broker/dealer/lessor	683	67	5,072	648	C	D	5	1	0	1979
315. Travel Center (267) Retail and wholesale travel services	682	67	72,304	9,241	D	D	360	42	2	1946
316. Dr. Cully's Cartage (275/185) Contract trucking & public warehousing	682	67	3,499	448	F	D	54	13	0	1973
317. Marshall Lewis & Associates IBM computer sales & leasing	682	67	12,435	1,591	C	E	11	3	0	1978
318. Equitrac (50) Computer billing service	679	67	4,299	552	C	D	36	10	0	1977
319. Houston Art Glass Enterprises Dist. stained glass & related supplies	678	67	2,017	259	D	D	11	3	0	1979
320. Johnson & Associates Office furniture dealership	678	67	962	124	F	F	6	2	0	1978
321. Merrill Computer typesetting & finan. printing	678	67	12,948	1,665	C	D	192	43	0	1968
322. Megas Manufacturing (318) Health & beauty products	670	67	9,543	1,240	C	D	105	30	1	1976
323. Dynamic Systems (276) Engineering mgmt. consultants	668	66	5,419	706	D	D	104	20	0	1977
324. Oxford Software (330/203) Computer software development & sales	665	66	10,998	1,437	D	B	110	12	0	1974
325. Essex Grain Products (207) Bakery & food ingredients	664	66	19,400	2,539	D	D	45	6	2	1972
326. Electro Mechanical Design (117) Magnetometers & electric design svcs.	662	66	2,176	285	C	B	61	6	0	1975
327. Creel Morrell Turnkey graphic design services	662	66	1,183	155	C	C	14	3	0	1979
328. Starmark (391) Advertising/marketing	661	66	4,260	560	B	B	19	3	0	1978
329. Goal Systems International Computer software development & sales	660	66	10,232	1,347	A	D	81	17	0	1975
330. Duncan Oil Petroleum prods. wholesaler & retailer	660	66	23,517	3,096	D	D	20	12	0	1955
331. Seko Air Freight (244/99) Domestic & international air freight	659	66	17,968	2,369	D	D	185	22	0	1976
332. Golden Gate, Realtors Real estate investment brokerage	658	66	1,006	133	D	D	10	4	0	1976
333. Deucalion Resources Group Software development	658	66	1,671	221	B	F	12	3	0	1978
334. Cormed (204/187) Mfr. & mkt. medical devices	654	66	2,807	372	D	C	20	2	0	1976
335. Campmor (91) Camping mail order company	652	66	8,350	1,110	D	E	65	10	0	1978
336. DP Enterprises Distr. IBM computer prods.	649	65	30,109	4,019	C	B	194	60	5	1970
337. Construction Systems Turnkey CAD & project mgmt. systs.	647	65	1,128	151	D	F	30	6	0	1976
338. Flexible Packaging (340) Mfr. polyurethane & corrugated boxes	647	65	3,026	405	D	A	40	30	1	1977
339. Slotline Golf Premium golf clubs	647	65	2,737	366	D	E	19	5	0	1975
340. Yantis Contractor	641	65	4,388	592	C	C	59	29	0	1975

*INC. estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
341. Motivational Marketing Sales & marketing consulting	641	65	1,000	135	A	A	19	2	0	1978
342. Booth Organization (488) Building maintenance	639	65	2,342	317	B	A	346	68	0	1977
343. ETM Electronic Test equip. for traveling wave tubes	638	65	3,334	452	D	F	75	14	0	1973
344. Words & Data Advertising agency	637	65	904	123	B	E	2	1	0	1977
345. Swimex Swimming-pool & spa equipment	631	64	3,261	446	D	D	10	2	0	1976
346. Proforma Business forms & office products	629	64	1,982	272	D	B	14	3	0	1978
347. Techne Electronics Vehicle security systems	627	64	1,600	220	E	E	25	5	0	1972
348. Advanced System Applications (297) Software development & remote services	627	64	14,475	1,991	C	D	332	38	0	1977
349. Kiwi Fence Systems Distr. agricultural fencing & trellising	622	64	1,027	142	D	D	9	4	0	1978
350. XTO Distr. flex. nonmetallic mater.	621	64	2,053	285	E	F	19	8	0	1978
351. Computer Science Press (272/196) Publishes text & reference books	619	64	1,932	269	D	D	14	5	0	1974
352. Peak Technical Services Contract engineering service	617	64	8,090	1,128	D	F	146	73	0	1972
353. Polycor Compounders of thermo plastics	614	63	13,799	1,932	D	F	86	27	1	1977
354. W-B Supply (384/31) Oil-field products	610	63	34,803	4,903	D	D	77	23	0	1971
355. BEI Holdings (188/69) Consulting within financial industry	609	63	8,854	1,249	B	B	110	12	2	1976
356. Scipar (308) Electro-optics R&D	609	63	2,408	340	D	C	29	6	0	1975
357. Neutron Industries (106) Maintenance products	606	63	1,766	250	F	F	40	13	0	1978
358. JBM Electronics (385) Mfr. electronic communication equip.	605	63	2,110	299	A	C	51	13	0	1975
359. Allegro Services (236/195) Mfr. & distr. fund-raising merchandise	604	63	10,398	1,477	D	D	85	25	0	1975
360. Lawson Associates (310/38) Computer software	603	63	5,796	824	D	E	104	24	0	1975
361. Scientific Calculations Develops & mkt. turnkey computer systs.	599	63	34,232	4,899	C	D	360	50	0	1963
362. Vanguard Plastics Tubing for hot & cold water plumbing	599	63	8,116	1,162	D	F	61	21	0	1977
363. United Design (197) Mfr. giftware figures	593	62	1,667	240	D	B	65	10	0	1975
364. Komfort Coach (468) Van & specialty vehicle conversions	591	62	9,593	1,389	D	D	120	35	0	1975
365. Leichtung (358/233) Mail-order catalog	590	62	16,998	2,463	C	C	75	20	0	1974
366. Setpoint (324/282) Eng. computer control applications	589	62	8,477	1,230	D	C	85	31	0	1977
367. Eastway Delivery Service Delivery service	588	62	4,167	605	D	F	73	8	3	1977
368. Fortuna Apparel chain	588	62	16,800	2,441	D	D	290	175	0	1961
369. Imahara & Keep Advertising & public relations	588	62	16,266	2,364	A	A	15	6	0	1979
370. Noel Joanna (133) Soft goods for infants	588	62	6,609	961	D	D	61	22	0	1970
371. Pacific Envelope (381/229) Mfr. & prints envelopes	587	62	4,266	621	D	D	32	8	1	1959
372. Heritage Insurance Assoc. Insurance agency	587	62	703	102	D	C	4	2	0	1979
373. Wesmac Computer Systems Computer retailer	586	62	2,415	352	D	F	9	2	0	1978
374. Cisco Electrical Supply Electrical distributor	584	62	2,418	353	E	E	8	1	0	1978
375. CTEC (171/446) Mfr. chair lifts	583	62	5,697	834	D	D	131	12	0	1976

*INC. estimate. A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
376. Geo-Centers (455) High-tech research & development	583	62	2,875	421	D	D	50	9	0	1973
377. Brad Cable Electronics (140) Mfr., sales, svc. of cable TV components	582	62	4,617	677	B	C	135	34	0	1977
378. Seneca Balance (480/416) HVAC test & balance	582	62	3,750	550	A	B	50	15	2	1979
379. Interval International Vacation-exchange organization	582	62	7,782	1,141	D	D	138	60	1	1976
380. Software Results (136) Datacomm, firmware develop. & sales	581	62	3,204	470	C	C	29	10	0	1975
381. PCI Computer trade publications	579	61	1,297	191	B	A	18	1	0	1979
382. Salazar Construction General contractor	576	61	7,438	1,101	D	C	150	20	0	1960
383. Sierra Geophysics Exploration software	575	61	3,054	452	C	C	20	7	0	1978
384. Graphco Graphics	574	61	1,785	265	C	F	42	18	0	1976
385. Markatron (95) Mfr. trademarked collectibles	574	61	2,736	406	D	D	15	3	0	1978
386. Genesee Stampings Metal stampings	574	61	2,813	418	C	C	35	7	0	1978
387. Sport Graphics (220) Mfr. sport bags	571	61	5,050	752	C	D	65	45	0	1977
388. HHB-Softtron Software products & services	566	61	4,486	673	D	B	60	15	1	1977
389. Endless Vacation Systems (282) Vacation exchange & travel services	565	61	16,800	2,525	E	D	330	74	0	1974
390. Associated Packaging (137) Packaging equipment & material	565	61	7,032	1,057	D	D	25	6	1	1977
391. Rising Fast Trucking Long-haul trucking	565	61	6,194	932	F	F	110	20	0	1979
392. San Antonio Developers (322) Specialty coatings	564	61	1,776	267	C	C	6	4	1	1977
393. Siegel-Ruggiero Design Graphics Advertising agency	563	60	1,825	276	B	E	14	8	2	1977
394. Skyway Freight Systems (446) Freight & computer services	561	60	9,864	1,492	D	D	80	20	0	1977
395. ZBR Publications Graphic art, typeset, print., binding	559	60	6,911	1,049	D	F	100	34	1	1978
396. Tek-Aids Industries (35) Microprocessors, software & peripher.	557	60	15,641	2,379	D	D	75	7	3	1974
397. Alacon General contractor	557	60	34,794	5,293	D	F	50	36	0	1964
398. Eterna-Line Specialty contractor	554	60	2,733	418	D	D	12	4	0	1972
399. Arcon Develops & mfr. medical products	552	60	931	143	C	C	23	11	0	1979
400. Wild & Woolly Needlecrafts Retail needlecrafts chain	551	60	2,897	445	D	D	30	18	0	1975
401. Avtec Industries TV facilities, computer networking	548	60	2,985	461	D	D	28	10	0	1978
402. Payday Payroll data processing	545	59	1,008	156	D	C	27	5	0	1975
403. American Passage Marketing (152/95) Photo finishing & marketing	543	59	6,651	1,034	D	F	116	30	0	197
404. Garey Construction Excavation & paving contractors	541	59	4,954	773	C	F	45	12	0	1977
405. Effective Management Systems (28) Software developer, computer systems	540	59	4,903	766	D	C	50	11	0	1978
406. Advanced Computer Communications Mfr. computer comm. equip. & software	540	59	10,638	1,663	C	C	135	33	0	1975
407. Intertec Components (303) Electronic products	540	59	2,723	426	D	C	15	6	0	1976
408. Metroweb Prints magazines	539	59	4,393	687	D	E	62	14	0	1977
409. IPL Commercial printers	539	59	1,518	238	B	F	25	5	0	1979
410. Ad-Tek Engineering Services (362/71) Provides temp. technical personnel	537	59	4,149	651	D	D	71	20	0	1974

*INC. estimate. A. 16% or more; B. 11% to 15%; C. 5% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
411. Cibco Consumer electronics	536	59	38,142	6,000	D	D	110	35	2	1964
412. PNS Packing & shipping locations	535	59	1,855	292	F	F	6	4	0	1976
413. Petroleum Well Services (127) Oil & gas services	533	59	6,089	961	E	B	89	40	1	1977
414. Klutz (491) Publishes trade books	533	59	1,212	191	A	C	4	3	0	1977
415. Webb, Murray & Associates (382/169) Fire protection & safety engineering	532	59	3,042	481	D	E	53	12	0	1975
416. Environmental Resources Mgmt. (88) Environmental consulting engineers	530	58	6,775	1,075	C	B	62	16	0	1977
417. Harmony Foods (346/92) Natural snacks & confectionery	530	58	28,601	4,538	D	D	225	50	0	1969
418. Gila Medical Services Full-benefit, prepaid health plan	522	58	2,229	358	E	C	24	12	0	1959
419. Systems Architects (347/256) Computer systems software	522	58	12,021	1,931	F	D	319	64	0	1970
420. Environmental Marketing Group Environ. prod. sales, construct. & svc.	522	58	2,939	473	D	B	9	3	0	1977
421. Ostarr (451) Mfr. concrete repair products	521	58	758	122	D	F	6	2	1	1978
422. Technology Constructors (168) General contractor	521	58	1,145	184	D	A	50	4	0	1978
423. Visible Changes (54) Chain of haircutting salons	518	58	9,122	1,476	B	B	305	100	0	1977
424. L/F Technologies (487) Mfr. microcomputer systems	518	58	20,777	3,363	A	B	131	36	0	1976
425. Delta Business Systems (122/21) Sell & lease office products	517	58	11,739	1,902	C	C	225	35	0	1976
426. Systems & Applied Sciences Computer software & systems	517	58	35,453	5,747	D	C	950	200	0	1973
427. T. J. Mac Dermott Dining service mgmt.	517	58	6,420	1,041	D	D	150	40	0	1978
428. Littlewood, Shain (86) Financial consulting & software sales	516	58	2,881	468	E	C	52	10	0	1977
429. Parmed Pharmaceuticals (290) Distributes generic pharmaceuticals	515	57	6,994	1,137	D	D	66	17	0	1968
430. Drug Emporium Retail drugstore chain; franchiser	515	57	34,311	5,583	D	D	148	20	1	1977
431. Comsearch (77/160) Engineering svcs. for telecomm. users	514	57	5,875	957	A	A	60	18	0	1977
432. Advanced Technology (176/34) High-tech professional services	511	57	58,607	9,589	D	D	1149	330	0	1976
433. Euro Rep (273) Import & distr. of auto accessories	511	57	989	162	D	E	5	2	0	1979
434. NEOPC (179/176) Natural foods	510	57	6,100	1,000	D	D	29	8	0	1977
435. Allied Tire Sales Retail tire sales	509	57	24,117	3,960	D	D	275	100	0	1976
436. Brooks International Delivery service, interstate	507	57	9,127	1,503	C	D	228	110	2	1972
437. Astro Automotive Sales of auto parts, service	507	57	1,518	250	D	F	30	7	3	1972
438. Lost Arrow Mfr. retail outdoor clothing & equip.	507	57	16,380	2,700	D	D	105	40	0	1972
439. Lufran (359) Mfr. product. equip. for semiconductor	505	57	2,832	468	B	B	46	20	0	1974
440. Associated Images Media design & production	501	57	643	107	C	F	10	4	0	1976
441. TeleCheck Southwest (252/52) Check & credit-card authorization	498	56	6,455	1,080	D	D	102	43	0	1977
442. Qualogy Computer peripherals	497	56	27,827	4,659	C	C	244	38	0	1967
443. Collier-Jackson (450) Software house	496	56	6,857	1,151	B	D	83	29	0	1975
444. Healthcare International Hospital management	495	56	62,289	10,469	D	D	1700	800	7	1979
445. National Computer Print Loan payment coupon books	494	56	11,578	1,949	B	A	160	50	1	1974

*INC. estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

500
446
480

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$000)	'79 sales (\$000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
446. Computer Maintenance (251) Services mini/microcomputers	494	56	4,612	776	D	D	51	39	0	1977
447. National Title Insurance agency	494	56	2,022	341	A	D	24	14	1	1978
448. D&D Services (177/134) Service contractor	491	56	3,312	561	C	C	300	131	0	1975
449. Advanced Circuit Technology Printed circuits & interconnect devices	483	55	4,269	732	C	F	111	30	0	1976
450. Easy Living Sells furn. appliances, TVs, audio equip.	482	55	17,295	2,972	D	D	300	40	0	1968
451. Spectra Research Systems Instrumentation R&D	482	55	6,297	1,082	D	D	90	27	0	1970
452. Computer Avionics Mfr. custom thick film hybrids	482	55	1,458	251	C	F	50	6	0	1975
453. Gordon S. Black Market research	481	55	1,523	262	D	B	20	4	0	1975
454. Par Label & Tape Pressure-sensitive labels	481	55	2,790	480	D	D	24	8	0	1975
455. Winona Knitting Mills (375) Retail clothing	480	55	11,793	2,035	D	D	125	50	0	1976
456. Roberts Welding Contractors Industrial contracting	479	55	855	148	B	B	50	8	0	1977
457. PCI Energy Services (248) Services nuclear power plants	475	55	16,085	2,795	B	B	160	25	0	1971
458. Memphis Glove (169/77) Mfr. & imports work gloves	475	55	16,750	2,911	D	D	34	7	0	1974
459. Alimar et Cie (225) Wine importer & marketer	471	55	1,618	284	B	C	2.5	2	0	1977
460. Pacific Trade Group Book & gift distributors, publishers	470	55	2,101	369	D	C	12	2	2	1977
461. Aquidneck Data (351/39) Computer software & syssts. engineering	469	54	8,753	1,540	D	C	204	56	0	1976
462. General Alum & Chemical Chemical producer of aluminum sulfate	468	54	3,732	657	D	D	25	10	1	1978
463. Systems Strategies (277/102) Commercial automated systems design	468	54	7,384	1,300	D	B	115	55	0	1976
464. Contract Furnish. & Syssts. (356/186) Office furniture dealer	467	54	16,894	2,980	A	A	83	16	2	1978
465. N.C.O. Industries Mfr. rigid polyurethane foam	466	54	6,038	1,067	D	D	10	5	0	1978
466. Erection Specialties Specialty contractors	466	54	3,519	622	C	C	47	16	0	1974
467. Baker Concrete Construction Concrete construction contractor	463	54	27,875	4,954	D	C	480	250	0	1969
468. International Metric Supply Distr. auto fasteners, supplies, tools	462	54	6,603	1,176	C	F	100	25	0	1977
469. Miller Oil (432/336) Petroleum distributor	461	54	28,900	5,147	D	D	141	34	6	1977
470. Straub Metal Service Steel warehousing & mfr.'s agency	460	54	1,400	250	C	D	5	2	0	1979
471. Sunwestern Properties Commercial real estate developer	460	54	1,504	269	B	B	20	7	1	1977
472. Western Controls (410) Electrical distributor	459	54	1,353	242	D	D	8	3	0	1977
473. Hidden Villa Ranch (306) Wholesale distributor of eggs & cheese	459	54	9,508	1,700	E	D	35	5	0	1977
474. Corporex Real estate; general contracting	459	54	41,443	7,413	D	C	95	40	0	1965
475. Alltest Mfr. auto diagnostic equipment	456	54	2,668	480	B	F	15	16	0	1974
476. Transpo Electronics Mfr. electron. compon. to auto aftermkt.	454	53	4,961	895	C	C	72	33	0	1978
477. Nacom Contractor, cable TV industry	453	53	11,034	1,995	C	C	66	9	0	1978
478. Telco Research (218) Telecomm. software & consulting	452	53	3,491	632	A	C	45	11	0	1977
479. American Agrinsurance (167) Crop insurance	452	53	24,300	4,400	D	D	33	6	1	1977
480. Sun Hill Industries (175/29) Mfr. holiday & stationery supplies	452	53	7,174	1,299	D	C	38	10	0	1974

*INC. estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

Company ('83/'82 rank) Business description	Sales growth 1979-83		'83 sales (\$'000)	'79 sales (\$'000)	Profit range*		No. of employees		Acqui- sitions '79-'83	Date founded
	Percent increase	Compound annual rate			'83	'79	'83	'79		
481. Peerless Umbrella Mfr. umbrellas	452	53	2,302	417	C	C	30	15	0	1929
482. Corporate Consulting & Devel. (259) Consulting engineering	452	53	2,809	509	C	D	51	23	0	1972
483. Protec Management System (226) Security & management control systems	450	53	1,181	215	B	D	19	4	0	1977
484. Marine Structural Applications (255) Marine contracting	450	53	6,517	1,185	D	C	60	12	0	1978
485. Thermal Engineering of Arizona Heat recovery units	447	53	2,086	381	D	D	19	3	0	1977
486. Pretty Neat Industries (407/199) Cosmetic organizers	446	53	6,775	1,241	D	D	150	20	0	1977
487. Hermens Air Scheduled airline & air taxi	444	53	1,539	283	C	C	22	6	0	1974
488. MD Resources Recruits physicians	443	53	766	141	C	B	15	4	0	1979
489. Seavex (478/308) Publishing & advertising sales rep firm	443	53	1,318	243	C	D	12	3	0	1977
490. Cablevision Industries Cable TV services	440	52	22,496	4,162	F	B	293	137	7	1956
491. Inceptis Software consulting & product develop.	440	52	1,642	304	C	A	26	6	0	1979
492. Sundown Vitamins (48) Mail-order & wholesale nutrition	439	52	11,116	2,064	C	C	75	12	0	1976
493. Professional Bank Services Financial consultants	438	52	1,175	218	D	C	17	5	1	1978
494. Dayton Extruded Plastics Mfr. custom extrusions	438	52	5,536	1,029	C	D	40	35	1	1969
495. Integral Systems (345) Application software	438	52	8,603	1,600	D	E	100	35	1	1972
496. Oil Recovery Systems Pumping systems & consulting svcs.	435	52	6,274	1,173	C	C	78	30	1	1975
497. Brum & Anderson Public Relations Public relations & marketing communic.	435	52	847	158	E	A	35	5	1	1978
498. Sun Circuits Printed circuit boards	434	52	1,473	276	D	D	24	8	0	1974
499. Uniq Digital Technologies (214) Computer systems development	434	52	4,575	858	F	C	40	14	0	1975
500. GPA Technical Consultants Engineering & design consultants	432	52	5,854	1,100	D	D	220	57	1	1979

HOW THE INC. 500 WERE SELECTED

The 1984 INC. 500 is the third annual ranking of the 500 fastest-growing privately held smaller businesses in the United States. To be included on the list, each company had to meet the following qualifications:

1. The company is an independent, privately held corporation, proprietorship, or partnership.
2. The company shows a sales history of at least five years. Companies founded after 1979 were excluded.
3. Sales in 1979 were at least \$100,000 but less than \$25 million.
4. The company's 1983 sales exceeded its 1982 sales. Companies showing growth in the five-year period, but a sales decline in 1983, were excluded.

While the criteria were relatively simple, the task of identifying the 500 finalists was complex, both because of the numbers of companies involved and because the project depended on information that is generally regarded as confidential.

INC. estimates that the total universe of potential candidates exceeds 500,000 companies. The research relied on two primary sources: INC. readers and in-house records. In addition, business groups, trade associations, and professional service firms were alerted to the search for high-growth companies by letter, advertisements, and personal contact.

Advertisement and business reply cards inserted in the April, May, and June issues invited readers to nominate candidates for the INC. 500. Drawing on the publication's national circulation of more than 550,000, the cards generated over 5,000 entries from April 1 to July 31.

INC.'s in-house database was screened to produce an additional 2,000 candidates, and another 1,500 names were added from directories and editorial files.

At the beginning of May, data forms were sent to 8,500 company executives. About 2,000 responses were received by the deadline of August 15. From those responses, more than 700 smaller, privately owned companies whose sales had at least quadrupled in the past five years were identified and ranked by percentage gain in sales.

Information on these companies as well as companies from last year's list was then verified through signed statements from company officers, support material from outside professionals, and telephone interviews with executives of each company. The published information is the only material that INC. will make available.

The list of INC. 500 companies was compiled by senior research editor Elyse Friedman, researcher/reporter Donna Fenn, and interviewers William Kilbourne III, Lucinda Sholley, Bradford W. Ketchum III, and H. David Richards.

*INC. estimate. A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss.

C4687

APRIL 1985

Inc.

THE MAGAZINE FOR
GROWING COMPANIES

IN SEARCH OF EQUITY

This man's your
best young manager.
Your company
depends on him. Now
he wants more
than a paycheck....



Why **JUST IN TIME**
may be too so
for some executives

**PERSONAL
BUSINESS**

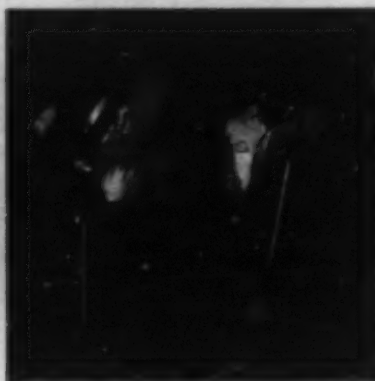
The crucial decision
most service companies
never make



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Clint Clemens

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NEWS & TRENDS

WILL THE SON ALSO RISE?

It was a great romance, while it lasted: Wall Street and the leveraged buyout. Now the two are giving birth to their own mini-phenomenon. According to investment banker Glenn Golenberg, "son of LBO" is on its way.

Like many of his colleagues, Golenberg has been deluged with LBO proposals in recent years. Most have been overpriced, undercapitalized, or generally ill-conceived, he says. In an LBO, a management group puts up a small amount of money, using the company's future earnings and assets as collateral to borrow funds to buy the company. One of the biggest LBOs

was the buyout of City Investing Co. for around \$1.3 billion. "The euphoria of the phenomenon in the past few years caused banks to lend too much money," says Golenberg. "A lot of unqualified people were getting deals done, and now the companies aren't performing as well as expected."

Saddled with debt, many such companies will raise cash by spinning off a unit through another LBO, Golenberg predicts. "We're finding a lot of LBOs that want to talk about selling divisions," he says. "It will become a very significant niche"—one that he hopes his new limited partnership, Golenberg Capital Asso-

ciates, will occupy. "There is an active, but quiet, market for it," concurs Leigh Trevor, a partner in Jones, Day, Reavis & Pogue, a law firm specializing in LBOs. Trevor says that certain LBOs are "engaging in partial liquidations in order to pay for the debt they've incurred."

But not all observers think that "son of LBO" will grow much once it is out of the delivery room. "It's really a small fraction of the market," says Victor A. Ptak, a partner in J. C. Bradford & Co., a Nashville-based investment banking firm. "Very few investment bankers have the talent, time, and temperament to do it."

—Joshua Hyatt

HOT SPOTS

TINY CONNECTICUT LEADS IN RETAIL SALES GROWTH

What are the fastest-growing retail markets around? New York? Houston? Phoenix? Surprise—none of them even makes the top 10. The hottest retail market these days is Hartford, the bustling insurance center. Hartford has plenty of fierce competition in its own backyard: New Haven and Fairfield County, Conn., occupy top slots, probably benefiting from the exodus of executives and big companies leaving the Big Apple.

From the looks of sales figures compiled by *Adweek* magazine, the aisles in many cities are jammed with engineers. High-tech centers—Boston, San Francisco, San Jose, Calif., and a few cities in North Carolina—were among those that have posted impressive retail sales gains. Not so for the Sunbelt, where it seems to be hotter outside than it is indoors. Nonetheless, here are the top 10: —J.H.

Geographic area	1982-'83 increase in retail sales	1983 (\$000)
1. Hartford	22.2%	\$ 6,351
2. New Haven	21.5	4,290
3. Fairfield County, Conn.	21.2	5,578
4. Providence	20.2	4,500
5. Raleigh Durham, N.C.	19.6	3,185
6. San Jose, Calif.	17.8	9,469
7. Greensboro Winston-Salem, N.C.	16.7	4,818
8. San Francisco	14.9	10,721
9. Boston	14.8	22,191
10. Bergen County, N.J.	14.6	8,478



BOOK BATTLE

David and Goliath are hurling books at each other in the hushed aisles of your public library.

David is Richard D. Smith, who sees a big business opportunity in the millions of books that are crumbling because of damage caused by acid in the paper. Smith, a librarian and engineer, spent 20 years developing a nonaqueous liquid process to deacidify books. In 1972, he founded Wei T'o Associates Inc., of Matteson, Ill. (Wei T'o is the ancient Chinese god who protects books.) The Public Archives of Canada and the National Library of Canada have treated 20,000 books with the Wei T'o process since 1981—a pilot program that accounted for a significant portion of the company's \$250,000 in sales last year.

The good news for Smith is that he has only one competitor he views as a serious threat. The bad news is that his competitor is the Library of Congress, which is probably the most influential force in the library world. The library developed its

own process with public funds and will build a \$11.5-million plant to treat a million volumes a year. Smith says comparable Wei T'o equipment would cost \$1 million, mostly because it doesn't require a special facility to isolate toxic and explosively flammable chemicals. "In a fair competition, they wouldn't have the chance of a snowball in hell," he says.

Smith is more gentlemanly in academic journals,

where the debate goes on oh so politely. But he knows it could be disastrous for him if the library licenses its own system, which it says is superior. "If you argue with the Library of Congress, it's almost like you're arguing with God Himself," explains Smith, who adds that three organizations are considering a Wei T'o facility.

"They may be winning a few battles, but they're not winning the war," Smith says. "I don't see any reason for an individual to back off from taking on groups in Washington just because they have access to the federal treasury." —V.I.

VIVE L'ENTREPRENEUR

"Forty years ago, people didn't know what an entrepreneur was. They thought it was a person living in France."

Donald Rappaport
National Director of Smaller
Business Services
Price Waterhouse

Choosing the right
health care stocks

Ways to help your
child buy a house

YOUR MONEY

Edited by John Case

HEALTH CARE STOCKS: "90% CONFUSION AND 10% OPPORTUNITY"

If you think *your* business has been buffeted by the winds of change, consider what is happening in the health care industry:

- New technological developments are turning up faster than in any other field, except possibly computers. They run the gamut from futuristic gene-splicing techniques—still mostly in experimental stages—to sophisticated diagnostic and therapeutic equipment.

- Health services are being delivered in new ways, often by new companies. Some 150 young, health-related companies went public in the last year and a half alone. About a quarter of these are firms that operate freestanding health care centers—medical, optical, dental, and so on. "That's up from zero a few years ago," points out Jules Marx, an industry specialist with Whale Securities Inc., based in New York City.

- The federal government—which picks up the tab for 30% of the nation's total health bill—has recently instituted a series of cost-cutting policies that fundamentally change the economics of the business. The Medicare system, for instance, has established standard treatment costs for 468 "diagnostic-related groups" (DRGs) of illnesses and disorders. If a hospital's costs for treating a patient with a given illness are above the DRG average, Medicare won't pay the overrun. If the costs are below the average, though, the hospital gets to keep the difference. The implication: There is a new emphasis on cost containment, efficient operation, and less-expensive technology.

All of this is quite a change from the system of the past 10 years, when health



care delivery was dominated by big non-profit hospitals with about as much interest in cost cutting as in yesterday's newspaper. And the changes undoubtedly open up investment opportunities. The difficulty lies in figuring out where the openings might be.

"Right now," says Paul W. Brown, a medical devices analyst with Hambrecht & Quist Inc., in San Francisco, "I'd say there is 90% confusion and 10% opportu-

nity. In a year, that ratio should change to 70% confusion and 30% opportunity." Meanwhile, says

Brown, investors would do well to study how various kinds of companies have done in the recent past, and what trends and pressures they will be facing in the future.

Service companies. Some 40% of all health care expenditures go to cover hospital costs, and big for-profit hospital chains, such as Humana Inc., are growing at rates as high as 25% a year. With the advent of cost containment, both they and the nonprofits are likely customers for companies offering hospital information systems. The top two companies in this field, says Bama Rucker, another Hambrecht & Quist analyst, are Shared Medical Systems Corp. and HBO & Co. Shared Medical reported 1984 sales figures of \$256.8 million, while HBO came in at \$88.7 million. Among their strong points, Rucker says, "both have a national sales force, a large hospital client base, and the money for R&D."

Much of the growth in health care services is taking place outside of hospitals. Health maintenance organizations (HMOs), for example, now number some 340, up from a mere 30 only 15 years ago, and such big publicly owned chains as Maxicare, U.S. Health Care Systems, and HealthAmerica are all well over \$100 million in revenues. But analysts tend to agree that HMO stocks, which soared in 1984, aren't bargains in 1985. Of greater potential interest to investors are the smaller, newer companies that operate a variety of installations. Jim Hoover, who tracks health care stocks for Robertson, Colman & Stephens in New York City,

YOUR MONEY

likes Mediplex, a Massachusetts company that operates eight nursing homes, three alcohol- and substance-abuse centers, and a building-development division. Mediplex went public in the fall of 1983 at 15; in February the stock was over 29.

Medical equipment. "Hospitals are not just cutting back on diagnostic machinery," says William J. Hayes, portfolio manager of Fidelity Investments' Select Health Care Fund, "but on everything from bedpans to needles." In such an atmosphere, investing in a company that manufactures expensive new equipment can be a chancy proposition. By the same token, though, new technologies that promise to shorten hospital stays or otherwise reduce costs are good bets for the future.

Lasers, says Whale Securities' Marx, are an example of a technology that fits in the latter category. Lasers are already well established in ophthalmology, and are just beginning to make headway in other areas. A company called Lasermid Inc., for instance, produces laser-based surgical equipment for physicians' offices, taking the technology out of the hospital entirely. The company is likely to turn a profit this year, Marx believes.

Another set of companies that may benefit from the current climate are those in the growing market for home health care. Two of the major players are Baxter-Travenol Home Therapy Group and Home Health Care of America Inc., which is the one pure play in this field. Both companies hold a 15% to 18% share of the home infusion-therapy market; that is, the market for home-based infusion of nutrients, antibiotics, or toxic chemicals for use in chemotherapy.

Home infusion therapy can lead to cost savings of from 50% to 80% for patients who use it; even so, according to Rucker, "The newness of the industry and the newness of cost data have kept the government from reaching a standard national rate for reimbursement." Government cost cutters want to get patients out of the hospital and into the home, she says, but worry that home infusion could produce another financial dilemma like kidney dialysis, in which the bill shot from \$229 million to \$2 billion in 10 years.

Biotechnology. The potential of gene-splicing and similar technologies is broad: Marketable products may one day range from medical diagnostic tools to sham-poops. But the key word is potential; many biotech companies haven't even begun to live up to their promise. Biogen, the well-

known genetic engineering company founded by Nobel laureate Walter Gilbert, for instance, didn't have the business acumen to match its scientific talent. "Biogen had difficulty identifying unique products," says Misha Petkevich, technology analyst with Hambrecht & Quist in New York City. "And it's very difficult to move ahead in biotechnology without a unique product."

Today, there are about 50 public biotech companies, many of them wholly

The key word in the biotechnology field is potential, because many biotech companies haven't even begun to live up to their promise.

unscrutinized by Wall Street analysts. Not all are primarily concerned with medical applications, but those that are focus on monoclonal antibodies, recombinant DNA, or both.

Monoclonal antibodies make diagnostic tests more accurate, and are used in research geared toward treating cancer and infectious diseases. Hybritech Inc., analysts say, is one company that is establishing itself as a leader in the field, notably with its pregnancy and colo-rectal cancer diagnostic products. Hybritech is also using monoclonal antibodies for in-

vivo imaging of cancer tumors. Petkevich expects the company to remain profitable this year, and thinks that more than 50% of its 1985 revenues will be attributable to product sales. In biotechnology, that is a healthy level.

Recombinant DNA—a fancy term for gene-splicing—allows scientists to transfer a gene from one organism to another. Genentech Inc., the acknowledged leader in this field, isolated the genetic code for human insulin, and was then able to produce insulin biologically. Genentech's gamma interferon is in human clinical trials, as is its so-called tPA (tissue plasminogen activator, an aid to the body in breaking up blood clots). Petkevich expects 50% of Genentech's 1986 revenues to come from sales as it begins a rapid rollout of products, including a human-growth hormone.

Jim McCamant, editor of *Medical Technology Stock Letter*, says that the biggest mistake health care investors often make is paying too much. "They look at what the company is doing, not at its price," says McCamant. "It is so easy to get excited about a company in an exciting business that investors will buy the stock at any price." An example cited by McCamant is Dasonics Inc., a medical diagnostic imaging company. Dasonics went public at 22 and then shot up to 30. Recently it was selling at around 3. "Investors thought it was such a good company that it could do no wrong," recalls McCamant. "But it tried to grow too fast and just couldn't make it."

—Lisa R. Sheeran
YOUR MONEY (continued)

The Five Best-Performing Health Care Stocks for 1984*

Company	Business	% Increase
STAAR Surgical	R&D of intraocular lenses	+700%
Medical Sterilization	Contract sterilization of medical products	+315
Exovir	R&D of skin disease treatments	+254
NMR of America	Freestanding magnetic imaging centers	+215
Healthcare Services Group	Maintenance to nursing homes	+191

The Five Worst-Performing Health Care Stocks for 1984*

Company	Business	% Decrease
Healthdyne Inc.	Electronic pediatric equipment	-85%
Quality Systems	Hospital information systems	-83
Doctors Offcenters	Freestanding emergency centers	-76
Braintech	Computer mapping of brain electrical activity	-75
Togo	Manufactures immunologic reagents and diagnostic test kits	-75

Source: Whale Securities Inc.

*January 1 to December 31

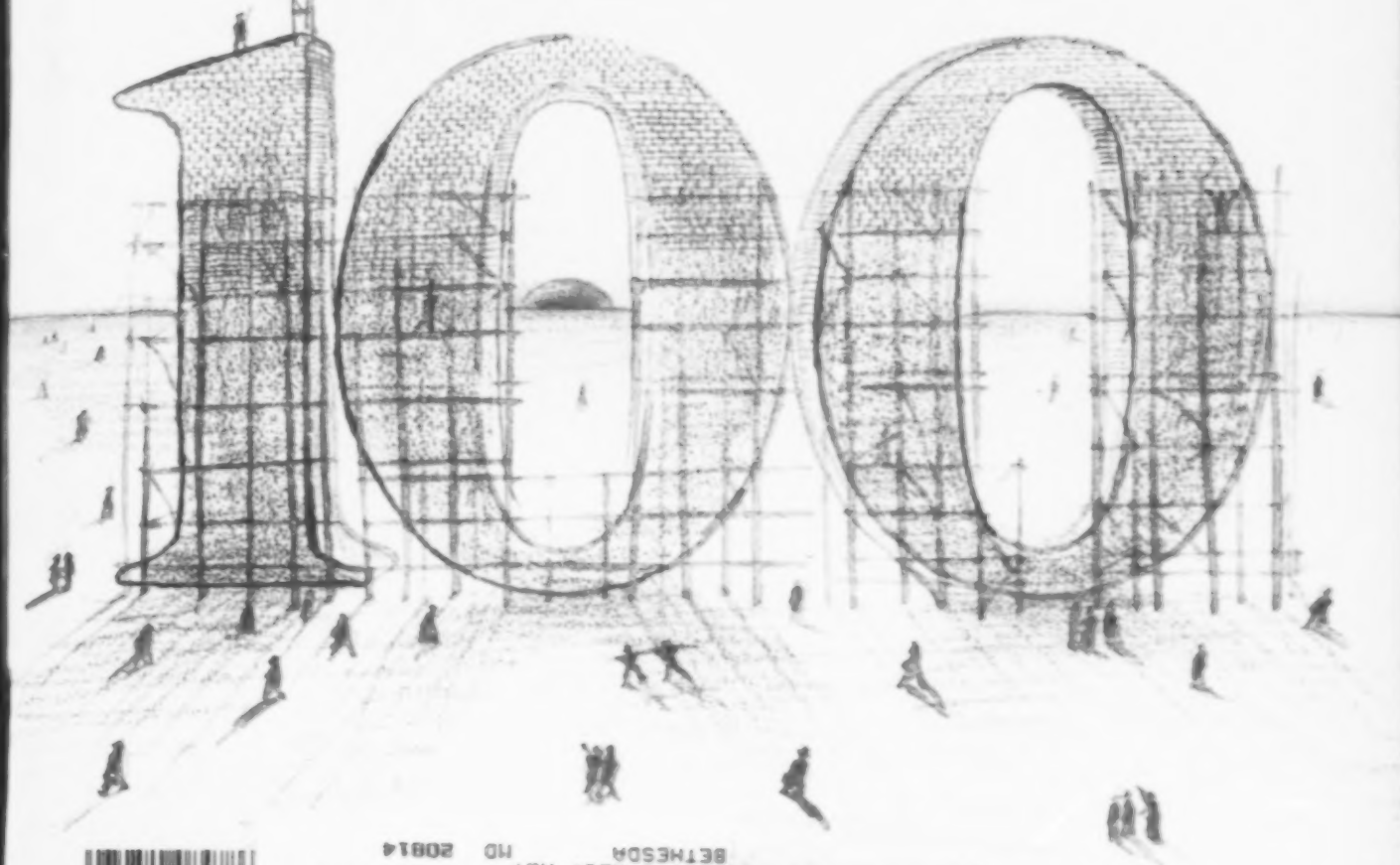
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VENTURE CAPITALIST DON VALENTINE ON
THE FUTURE OF SILICON VALLEY

THE INC.100 1985's FASTEST-GROWING SMALL PUBLIC COMPANIES



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Eugene Mihaesco

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THE 1985 INC. 100

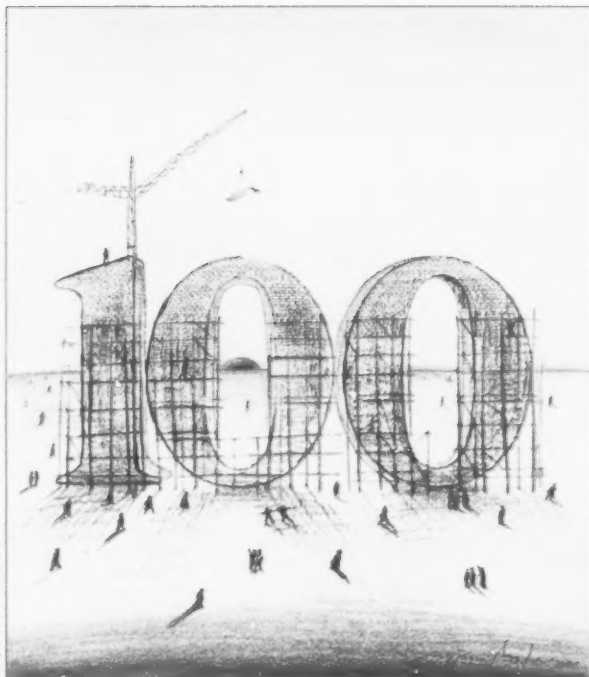
Introducing the fastest-growing public companies in America.

BY CURTIS HARTMAN

Ten years ago, more than 80% of the companies on this year's INC. 100 list didn't exist. Five years ago, most were still in the start-up stage—small, struggling, and privately held. Today, they are in the front ranks of America's resurgent economy. If, as Ronald Reagan predicted last January, we are on the verge of a second American revolution, then the chief executive officers of the INC. 100 are the Minutemen of the 1980s, the growth leaders of the entrepreneurial age.

And quite an age it is. Although statistics on the subject are fuzzy, all the indicators point to a record number of new businesses created over the past several years. More to the point—since the INC. 100 includes only public companies—is the record number of initial public offerings. While the IPO rush slowed in 1984, with 550 companies raising \$3.8 billion compared with 888 companies and \$12.6 billion in 1983, the past two years have seen an extraordinary number of new entrants in the public equity markets: 39% more IPOs were issued in 1983 and 1984 alone than in the five preceding years. This year's ranking reflects that explosion. Thirty-three companies on the list went public during 1983, another 19 in 1984.

The 100 companies on this year's list are



EUGENE MIHAESCU

a testimony to the diversity of markets open to the American entrepreneur. Take James Busby, for example. A systems engineer with Scott Paper Co., he noticed there was no way to print big, easy-to-read labels for the company's huge paper rolls; working out of his bedroom, he developed a circuit board that enabled conventional computer-driven printers to do the job. Today, his company, QMS Inc. (#77), is a \$32-million operation that makes intelligent controllers and interface equipment for printers. Or take Joe Corazzi. A one-time producer for public television in Wisconsin, he set up Telstar Corp. (#29) to distribute programming by satellite to hotels, cable systems, and commercial TV stations. A year ago, Telstar launched

Country Music Television, a program modeled after the popular Music Television (MTV), and now transmits the program to about 8 million homes.

Overall, the ranking represents a diverse range of manufacturing, wholesaling, retailing, service, and energy-related companies, in 22 states. As in past years, companies in various branches of the computer business dominate the list, spanning a range from integrated-circuit manufacturers to personal computer retailers. Health-related companies are well represented, too; they include biotechnology labs, medical equipment makers, and operators of health care facilities. There are six restaurant companies, five air carriers, and seven oil and gas explorers. Looking for unusual businesses? One company on the list makes pickup truck-bed liners, another sells art-deco

sculpture. Five former members of the INC. 500, this magazine's annual ranking of private companies, were able to earn places on this year's list, so were 36 alumni of the 1984 INC. 100 (see "What Ever Happened to the Class of '84?" page 61).

What all these companies have in common, of course, is a phenomenal rate of growth. Companies on the list are ranked by their percentage increase in sales from 1980, the base year, through 1984. Over that five-year period, total revenues of the 100 soared 2,260%, a compound annual growth rate of 120%. To grasp the meaning of such numbers, consider the fact that five years ago, the 100 companies averaged \$2.3 million in sales, with only five topping \$10 million. Today, the same compa-

INC. 100: Overview

Number of companies by industry

Manufacturing	53
Service	30
Mining (including oil and gas)	6
Wholesale and distribution	6
Retail	5

Total sales 1984 (million) \$5,462

Change (1980-84) +2,260%

Change (1983-84) +64%

Total net income 1984 (million) \$179.5

Total net income 1980 (million) (\$22.8)

Median sales 1984 (million) \$27.11

Median sales 1980 (million) \$0.84

Comp. annual sales growth rate (1980-84)

Total sales 120.42%

Range 85.56%-466.61%

Net income as a % of sales (1984)

Range loss to 0.12%-40.51%

Median 4.07%

No. acquiring other companies (1980-84) 44

No. incorporating since 1975 84

Median number of employees

1984 254

1980 30

Change 1980-84 746.67%

THE TOP 10: Productivity

Company (rank)	Sales per employee (\$000)*
Micro D (38)	\$580.1
Pope, Evans & Robbins (73)	472.1
Bay Pacific Health (57)	451.6
Telepictures (91)	420.0
Centuri (45)	375.0
Walker Telecommunications (13)	356.2
Reid-Ashman (35)	280.1
Helm Resources (43)	271.3
Tandon (67)	258.6
Convergent Technologies (1)	229.6

*Excludes capital-intensive energy developers and companies whose primary business is leasing or real estate.

THE TOP 10: Sales

Company (rank)	Sales (\$000)
Tandon (67)	\$400,793
Convergent Technologies (1)	361,772
Home Depot (33)	256,184
American Healthcare Mgmt. (58)	255,000
AGS Computers (90)	226,000
Pope Evans & Robbins (73)	196,856
Chi-Chi's (71)	161,706
Xebec (87)	157,700
Centuri (45)	150,000
Endevco (9)	138,420

TOP 10: Profitability

Company (rank)	Net income as % of sales
HCW (74)	40.51
Micron Technology (4)	33.16
G. D. Ritzy's (12)	31.17
Enzo Biochem (41)	25.30
Genex (80)	21.26
Reid-Ashman (35)	20.75
Hogan Systems (20)	19.49
Lee Data (6)	17.83
Information Resources (92)	17.06
C. P. Rehab (49)	16.73

THE TOP 10: New Employees

Company (rank)	1980 empl.	1984 empl.	% growth
American Healthcare (58)	49,570	11,533	
Buffton (3)	7,700	9,900	
Micron Technology (4)	15,958	6,287	
Fuddrucker's (15)	17,079	6,247	
Durakon Industries (39)	6,311	5,083	
ComputerCraft (8)	12,615	5,025	
Expeditors Int'l. (2)	5,225	4,400	
3Com (22)	4,136	3,300	
Page America Group (55)	6,175	2,817	
G. D. Ritzy's (12)	5,140	2,700	

WHERE THE INC. 100 ARE BASED

State	1985	1984
California	27	27
Texas	14	8
New York	12	5
Colorado	5	7
Georgia	5	4
Minnesota	5	4
Massachusetts	4	8
Maryland	4	3
Ohio	4	1
New Jersey	3	8
Oklahoma	3	0
Michigan	3	0
Illinois	2	2
Connecticut	1	4
Pennsylvania	1	3
Kentucky	1	1
Washington	1	1
Florida	1	1
Alabama	1	1
North Carolina	1	1
Utah	1	0
Idaho	1	0

nies' average volume is \$54.6 million, and well over half top \$25 million. Every company on this year's list registered more than a tenfold increase in sales, right down to Novan Energy Inc. (#100), a Boulder, Colo., manufacturer of solar water heating systems. The leader—Convergent Technologies Inc. (#1), a San Jose, Calif., manufacturer and distributor of computer systems—recorded a whopping 102,969% increase despite its many troubles (see "New Faces of 1985," page 72). From 1983 to '84 alone, the INC. 100 chalked up a vigorous 64% sales growth.

Reflecting the current economic boom, this year's INC. 100 companies are the fastest-growing group in the seven-year history of INC.'s list. They are also the youngest and the largest.

Last year, for example, the average five-year growth rate for members of the list was 2,030%, in the past six years the rate averaged 1,149%. Last year's cutoff point was 783%. This year's was 1,086%, a figure that would have disqualified 26 members of 1984's list.

On average, the 1985 INC. 100 companies have been in business for 10 years, with more than half founded since 1978. To be sure, a company's age can be deceptive. Pope, Evans & Robbins Inc. (PER, #73), for example, is the second-oldest company on the list. Founded in 1926 as an energy engineering firm, it changed direction with its 1980 acquisition of a company that made protective garments for the Department of Defense. Today, PER makes fabric for luggage, swimwear, and rainwear as well, and has diversified into knitwear. Thanks to the repositioning, it has a five-year sales increase of 1,535%.

In 71 of the companies the original founder still serves as CEO, a 10% decrease in founder control from the 79 CEOs found heading up last year's members. Founders hold an average of 17% of the equity, a drop from the 20% of last year. Whether a founder or an import, however, all but 1 of the 100 CEOs hold at least some equity in his or her company. The exception? James R. Kanely of Byers Communications Systems Inc. (#60), who holds an option on 5.6% of the company's stock.

While the companies in the class of 1985 are the youngest in the ranking's history, they are nonetheless significantly larger than in past years. The average sales volume of 1985's companies is \$54.6 million, up considerably from last year's average of \$44.6 million and the historical average of \$46.4 million over the first six years of the listing. Disk-drive manufacturer Tandon Corp. (#67), a five-year veteran of the 100 and last year's runner-up for total sales, is the volume leader for 1984, with \$400.8 million in sales. Con-

vergent Technologies ranks next at \$361.8 million, while another 15 companies have also passed the \$100-million mark. Roughly half of these sales leaders are in computer or computer-related businesses; the rest are drawn from a variety of industries.

Taken as a group, this year's 100 companies registered \$77,773 in sales per employee, down 12% from last year's \$88,116, but 9% over the historical figure of \$71,251. Who are the leaders? Excluding the highly capital-intensive oil and gas companies on the list, the productivity winner is Micro D Inc. (#38), a Santa Ana, Calif., distributor of microcomputer

software, with \$580,000 in sales per employee; the runners-up are PER, with \$472,000, and Bay Pacific Health Corp. (#57), with \$452,000. In general, of course, productivity varies enormously by industry. The seven oil and gas companies averaged \$238,000 in sales per employee, while the six food-service companies averaged only \$16,000.

These productivity figures have been achieved despite rising payrolls. On average, each company on the list employs 702 workers, a 347% increase in employment over the past five years. In the past year alone, the average company has added 245

workers, an increase of 54%. Dallas-based American Healthcare Management Inc. (#58) experienced the largest percentage gain, swelling from 49 to 5,700 employees over the past five years. Not every company is adding jobs, however. Sales leader Tandon saw employment drop from 3,000 in 1983 to 1,550 in 1984, due largely to plant consolidation and the shift of much of the company's manufacturing to Singapore.

The members of 1984's INC. 100 show a somewhat ragged bottom line. As a group, the 100 companies were unprofitable five years ago, with more than half indicating red ink on their P&Ls. That re-

WHAT EVER HAPPENED TO THE CLASS OF '84?

Looking back, the most remarkable thing about the class of 1984 is its staying power: Last year's growth leaders are mostly still growing.

Led by ComputerCraft Inc., the computer retailer that ranks #8 this year, and by Endevco Inc., the oil and gas company that ranks #9, 36 of the 1984 INC. 100 companies graduated to the 1985 list. Of those 36, 7 moved up in the rankings, 1 stayed in the same place, and 28 moved down.

The higher growth rate required to qualify for this year's list—the highest, in fact, in the seven-year history of the ranking—was the major cause of attrition among the '84 alumni. Forty-one companies from last year's list reported continuing sales growth but were unable to reach 1985's 1,086% cutoff. Among these were 4 with a five-year growth rate of more than 1,000%—Helionetics, BSN, Cincinnati Microwave, and United States Health Care Systems—plus another 14 with growth rates over last year's cutoff of 783%.

Only 14 companies didn't make the list because their sales fell in 1984. Applied Circuit Technology Inc., a manufacturer of testing equipment for hard-disk drives, and Onyx-IMI Inc., which makes the drives themselves, both saw sales drops of more than 30%. The biggest loser was Chemfix Technologies Inc., a Louisiana-based processor of hazardous and nonhazardous wastes, with sales off 44%. The villain in this case, says Chemfix president Daniel Silverman III, was government regulation. One \$4-million program in Maryland was canceled because Chemfix couldn't get the last in a long list of permits required to transport its sludge-treatment product, while a \$7-

million refinery waste program was held up by regulatory delays. Silverman remains optimistic, however, convinced that tougher government regulation will eventually work to his company's benefit.

Two companies from 1984's list were disqualified because their sales for the base year of 1980 fell below the \$100,000 cutoff. Ciprico Inc., last year's #37, saw its sales drop from \$145,000 in 1979 to \$89,000 in 1980, although by 1984 it was up to \$7.6 million. The Forum Group Inc., the health-care company that was last year's #98, witnessed an even more dramatic drop; thanks to a financial restatement, it went from \$9.8 million in 1979 to only \$47,000 in 1980. But Forum also recorded the most spectacular growth of any company considered, soaring to almost \$116 million in 1984, a 246,302% increase. Were it not for the disqualification, Forum would have topped this year's list.

Three other companies from 1984 were counted out because their sales in 1980 were already over the \$25-million mark. BRAE Corp., the transportation/leasing company that ranked #1 in 1983 and #11 last year, grew from \$30.2 million in 1980 to \$485 million in 1984. NBI Inc., a manufacturer of word-processing systems that has appeared on the list every year since 1980, went from \$33 million in 1980 to \$177 million in 1984, a 442% growth rate. Disonics Inc., the medical imaging company that ranked #27 last year, was up to \$35.6 million in sales by 1980 and more than \$135 million by 1984.

Only one company from last year's roster was acquired. By September 1984, 51% of Independence Health

Plan Inc.'s stock had been sold to Great West Hospitals Inc. It was partly a marriage of necessity: One of the early investors in Independence was searching for a way to cash out. But, says Independence's president M. Donald Kowitz, it was a positive strategic move as well. Independence (last year's #7) remains separate, with its management team intact; by joining with Great West, Kowitz says, it gains national marketing potential and additional financial resources.

Finally, the class of '84 was not without its dramatic casualties. The crash of Pizza Time Theatre Inc.—which, when it filed for Chapter 11 in March 1984, left 5,000 creditors and more than \$100 million in debts—has been widely chronicled (see INC., October 1984, page 82). Nautilus Enviromedical Systems Inc., although it was still registering a high rate of growth at the end of 1984, filed for protection in early 1985.

Then there was Psych Systems Inc., a Baltimore developer of computerized psychological testing systems, which came within a hairbreadth of staying alive. Psych Systems had been suffering from sharply higher operating costs, declining sales, and write-offs for bad debts. Last June, Charter Medical Corp. bought out three of the company's six directors and announced plans to acquire all remaining outstanding stock at \$5 a share. In September, however, Charter replaced its \$5 offer with a \$1.50 per-share bid. Finally, in October, it rescinded even that offer, a change of heart attributed to accounting discrepancies and poor prospects for renewal of the company's testing license. On October 24 time ran out: The company had to file for protection under Chapter 11.—Curtis Hartman

cord has improved significantly, although at the end of fiscal 1984, roughly one-quarter were still wrestling with deficits. Their total net profit was a modest 3.29% of sales. Topping the profit makers for the second straight year was HCW Inc. (#74), with net income of 41% of sales. (That figure is slightly "misleading," however, says president John Plukas, thanks to a \$2-million reimbursement for overhead to the company from HCW's managed oil and gas partnerships.) The biggest loser was Masstor Systems Corp. (#34), with a net loss of \$17.4 million.

Pegging the INC. 100's return on equity is difficult. Small growth companies in general are highly leveraged, and the companies on the list are no exception. Substantial change in equity due to new stock issues, coupled with the idiosyncrasies of calculating return ratios, further muddy the figures. By INC. estimates, however,

the ROE for profitable companies on this year's list comes to 21%, ranging from the 566% chalked up by Nutri-Foods Int'l. Inc. (#61) to the .4% registered by Fudruckers Inc. (#15).

While the majority of the INC. 100 expanded internally during the 1980-84 period, acquisitions played a role in the growth of 44 others, including 8 companies with more than five purchases in the past five years. Healthdyne Inc. (#37), a Georgia maker of electronic medical equipment, was the acquisition leader, with 17 purchases in the past five years. For AGS Computers Inc. (#90), with 10 acquisitions, the goal was to gain market share by adding functional skills and geographic reach. Generally, companies in the medical and health care fields were the most aggressive acquirers; American Healthcare Management, for example, added almost 40 facilities by acquisition.

Because of the requirements for membership on the list (See "How the INC. 100 Are Selected") not every fast-growing company is eligible for membership. Some faces to watch for future years are companies with a growth history that began after 1980. These include Allnet Communication Services Inc., a Chicago-based long-distance telephone service with a 15,064% revenue gain between 1981 and 1984; Ashton-Tate, a Culver City, Calif., software producer with a 9,146% gain; and AST Research Inc., an Irvine, Calif., manufacturer of personal-computer add-ons with a 16,055% increase.

And there are some faces that you will never see: Their growth in the first year vaulted them out of the small company category entirely. In the latter group are such high flying companies as Compaq Computer Corp. and People Express Airlines Inc. □

HOW THE INC. 100 ARE SELECTED

The INC. 100 ranks companies by their percentage increase in revenues over the past five years—in this case, 1980-84. To be included on the list, each company must meet the following criteria:

1. The company is an independent corporation in a manufacturing, mining, wholesaling, retailing, or service industry. Banks, other financial institutions, and utilities are excluded.
2. The company was publicly held as of December 31, 1984.
3. The company shows an operating/sales history of at least five years, with growth during its 1984 fiscal year. Companies showing growth in the 1980-84 base period but a sales decline in the last year are excluded.
4. The company's 1980 sales were at least \$100,000 but no more than \$25 million.

INC.'s research staff gathers preliminary data on companies from prospectuses, 10-Ks, annual reports, and various directories, supplementing this data with information from a wide array of newsletters, trade magazines, and other business publications. By applying the four criteria listed above, and by using a five-year growth cutoff of 400%, INC. reduced the number of potential qualifiers for the list to 302. Among those screened were 550 companies that went public in 1984.

Once the list was narrowed, INC. conducted telephone interviews with executives of each qualifying company to verify the figures.

An editorial team led by assistant research editor Sara Baer-Sinnott and senior research editor Elyse M. Friedman selected the 1985 INC. 100. They were assisted by Bradford W. Ketchum III, William Kilbourne III, Nancy McMillan, Andrew McSherry, Lucinda Sholley, and Linda Webster. The published material is the only information INC. will make available.

INC. 100 INDEX

Company (rank)

AGS Computers (90)
Action Packets (68)
Altos Computer Systems (94)
American Healthcare Mgmt. (58)
American Solar King (84)
Atlantic Southeast Airlines (64)
Automatix (27)
Avant-Garde Computing (52)
B. I. (65)
BSD Medical (51)
Bay Pacific Health (57)
Bogert Oil (86)
Buffton (3)
Byers Communications Sys. (60)
C. P. Rehab (49)
Carriage Industries (98)
Centuri (45)
Chi-Chi's (71)
Collagen (16)
Columbine Exploration (66)
Comair (97)
CompuShop (56)
ComputerCraft (8)
Consul Restaurants (19)
Convergent Technologies (1)
Corvus Systems (46)
Data Switch (62)
Datasouth Computer (88)
Durakon Industries (39)
Empi (54)
Ermulex (70)
Endevco (9)
Enzo Biochem (41)

Company (rank)

Expeditors Int'l. of Washington (2)
Fibronics International (40)
FilmTec (14)
Fine Art Acquisitions (23)
Fudruckers (15)
G. D. Ritz's (12)
Genex (80)
HCW (74)
Healthdyne (37)
Helm Resources (43)
Hogan Systems (20)
Home Depot (33)
Home Health Care of America (25)
Hybritech (10)
IDEA (47)
Inacomp Computer Centers (83)
Info Designs (81)
Information Resources (92)
Information Solutions (99)
Intertrans (75)
Kaypro (30)
Kelly-Johnston Enterprises (69)
Lee Data (6)
Lomax Petroleum (85)
Marquest Medical Products (72)
Masstor Systems (34)
Micro D (38)
MicroPro International (26)
Micon Technology (4)
Nelson Research & Devel. (79)
Novan Energy (100)
Nutri-Foods Int'l (61)
One Potato Two (11)
Page America Group (55)

Company (rank)

Pinetree Computer Systems (42)
Plains Resources (53)
Pope, Evans & Robbins (73)
Protocol Computers (24)
Publishers Equipment (63)
QMS (77)
Quest Medical (48)
Reid-Ashman (35)
Satelco (5)
Savoy Industries (28)
Servamatic Systems (32)
Simmons Airlines (18)
StarTel (44)
Sulcus Computer (50)
TVI Energy (31)
Tandon (67)
Telco Systems (89)
Telepictures (91)
Telstar (29)
Tender Loving Care (78)
3Com (22)
Total Assets Protection (59)
Tranzonic (96)
U.S. Design (17)
Ungermann-Bass (7)
Vector Automation (95)
Video Connection of America (82)
Walker Telecommunications (13)
Xebec (87)
Yankee (93)
Zitel (76)
Ziyad (21)
ZyMOS (36)

Rank		Company	Sales growth (1980-84)		Sales (\$000)		Net income (\$000)	
			Percent increase	Compound annual rate	'84	'80	'84	'80
1		CONVERGENT TECHNOLOGIES (San Jose, CA)	102,969%	467%	\$361,772	\$351	(\$13,827)	(\$3,365)
2		EXPEDITORS INTL. OF WASHINGTON (Seattle)	32,187	324	51,013	158	2,113	32
3		BUFFTON (Fort Worth)	26,128	302	43,277	165	2,891	16
4		MICRON TECHNOLOGY (Boise, ID)	22,828	289	87,355	381	28,969	(38)
5		SATELCO (San Antonio)	17,356	263	43,116 ⁱ	247	(854) ⁹	(513)
6		LEE DATA (Eden Prairie, MN)	15,545	254	98,720	631	17,600	(1,433)
7		UNGERMANN-BASS (Santa Clara, CA)	11,896	231	52,302	436	6,287	(1,215)
8	14	COMPUTERCRAFT (Houston)	11,602	229	94,084	804	266	(93)
9	1	ENDEVCO (Dallas)	11,108	225	138,420	1,235	2,785	271
10		HYBRITECH (San Diego)	9,323	212	33,827	359	1,118	(2,039)
11		ONE POTATO TWO (New Hope, MN)	9,170	210	9,270	100	151	NA
12		G. D. RITZY'S (Columbus, OH)	9,124	210	13,928	151	4,341	(122)
13		WALKER TELECOMMUNICATIONS (Plainview, NY)	8,684	206	26,000 ^c	296	2,500 ^c	93
14		FILMTEC (Minneapolis)	7,753	198	9,266	118	1,525	(375)
15		FUDDRUCKERS (San Antonio)	7,532	196	24,500	321	30	(54)
16		COLLAGEN (Palo Alto, CA)	6,995	190	14,687	207	1,810	(2,018)
17		U. S. DESIGN (Lanham, MD)	6,720	187	8,388	123	(881)	(222)
18		SIMMONS AIRLINES (Chicago)	6,530	185	24,264	366	1,379	(79)
19	6	CONSUL RESTAURANTS (Minneapolis)	6,505	185	63,742	965	2,343	(520)
20		HOGAN SYSTEMS (Dallas)	6,451	184	36,422	556	7,098	(558)
21		ZIYAD (Denville, NJ)	6,070	180	22,519	365	2,559	(25)
22		3COM (Mountain View, CA)	5,826	177	16,652	281	2,290	10
23		FINE ART ACQUISITIONS (New York City)	5,567	174	10,200 ^c	180	575 ⁹	(165)
24	13	PROTOCOL COMPUTERS (Woodland Hills, CA)	5,174	169	15,822	300	884	4
25	25	HOME HEALTH CARE OF AMERICA (Newport Beach, CA)	4,680	163	49,711	1,040	1,398	(212)
26		MICROPRO INTERNATIONAL (San Rafael, CA)	4,393	159	66,945	1,490	5,795	31
27		AUTOMATIX (Billerica, MA)	4,367	159	20,058	449	(14,193)	(1,411)
28		SAVOY INDUSTRIES (New York City)	3,979	153	124,300	3,047	3,000 ^c	(240)
29		TELSTAR (Los Angeles)	3,835	150	8,500 ^c	216	(253) ⁹	58
30	42	KAYPRO (Solana Beach, CA)	3,691	148	119,564	3,154	(268)	(148)
31	46	TVI ENERGY (Beltsville, MD)	3,626	147	3,950 ^c	106	180 ^c	(1,104)
32	18	SERVAMATIC SYSTEMS (San Ramon, CA)	3,578	146	73,600	2,001	5,200	15
33	26	HOME DEPOT (Atlanta)	3,547	146	256,184	7,025	10,261	(930)
34	41	MASSTOR SYSTEMS (Santa Clara, CA)	3,542	146	26,261	721	(17,382)	(4,400)
35		REID-ASHMAN (Santa Clara, CA)	3,402	143	4,202	120	872	23
36	35	ZYMOS (Sunnyvale, CA)	3,263	141	19,305	574	(12,864)	(741)
37	5	HEALTHDYNE (Marietta, GA)	3,128	138	136,633 ⁹	4,233	(6,716)	490
38		MICRO D (Santa Ana, CA)	3,121	138	114,274	3,548	708	62
39		DURAKON INDUSTRIES (Lapeer, MI)	3,094	138	27,850	872	2,859	65
40	45	FIBRONICS INTERNATIONAL (Hyannis, MA)	3,087	138	13,097	411	1,072	(109)
41		ENZO BIOCHEM (New York City)	2,981	136	5,115	166	1,294	(19)
42		PINETREE COMPUTER SYSTEMS (Dallas)	2,772	131	4,222	147	131	(298)
43		HELM RESOURCES (New York City)	2,723	130	70,000 ^c	2,480	(3,159) ⁹	111
44		STARTEL (Irvine, CA)	2,473	125	10,033	390	638	(168)
45	39	CENTUM (Binghamton, NY)	2,440	124	150,000	5,906	(542) ⁹	(4,525)
46		CORVUS SYSTEMS (San Jose, CA)	2,214	119	50,540	2,184	(10,623)	59
47		IDEA (Torrance, CA)	2,184	119	4,362	191	574	35
48		QUEST MEDICAL (Carrollton, TX)	2,132	117	7,500 ^c	336	(1,500)	(394)
49	69	C. P. REHAD (New York City)	2,055	115	20,627	957	3,450	235
50		SULCUS COMPUTER (Greensburg, PA)	2,053	115	2,153	100	250 ^c	0

NA: 12 month figure not available at press time; NM: negative return on equity; i: INC. estimate; c: company estimate; 9: nine-month figure

Shareholder Equity '84	Return on equity	No. of employees '84 '80		Acquisitions '80 - '84	Date inc.	Date public	CEO founder	CEO equity %	Business description
\$213,148	NM	1576	76	0	1979	1982	N	2	Mfr. computers & computer systs.
80,693	138.01	225	5	1	1979	1984	Y	22	International air freight forwarding
12,780	39.73	700	7	3	1980	1981	Y	12	Mfr. of pvc pipes & fittings, electrical cables
89,307	237.18	958	15	0	1978	1984	Y	3	Mfr. DRAM components for microcomputers
NA	NA	242	29	0	1980	1983	Y	40	Telecommunications svc.
82,009	29.88	1156	85	0	1979	1982	Y	3	Mfr. display interactive terminal systs.
54,185	13.28	493	25	1	1979	1983	Y	9	Supplier of local area network systs.
8,968	14.17	615	12	7	1977	1983	N	2	Operator of retail computer stores
12,516	29.99	72	20	0	1977	1983	Y	17	Oil & gas exploration/development
48,199	2.50	526	73	0	1979	1981	N	3	Developer of medical prods.
7,759	9.04	91	8	0	1976	1983	N	25	Quick-service restaurants
7,714	36.14	140	5	0	1979	1982	Y	31	Quick-service restaurants
NA	25.94	73	3	1	1978	1983	Y	17	Dist. business telephones
15,598	61.00	139	24	0	1977	1979	Y	4	Mfr. membranes for water desalination
14,000	0.40	1079	17	0	1979	1983	N	4	Operator/franchisor of restaurants
38,301	4.93	220	80	0	1977	1981	N	5	Developer of biomedical products
10,044	NM	84	4	0	1978	1981	Y	6	Mfr. information storage systs.
10,096	38.66	521	60	0	1974	1984	N	28	Regional airline
27,391	9.77	5500	200	2	1978	1980	N	2	Operator/franchisee of Chi-Chi's restaurants
44,484	38.68	419	38	1	1977	1982	N	4	Developer of software for financial institutions
16,500	35.62	335	44	0	1979	1983	Y	8	Mfr. microprocessor-based paper feed for printers
19,608	88.01	136	4	0	1979	1984	N	7	Mfr. local area network systs.
3,800 ^c	17.76	90	10	0	1980	1983	Y	51	Marketer of original art to galleries
11,254	8.55	134	9	0	1976	1983	Y	52	Dist. protocol conversion products
57,762	2.77	422	25	3	1979	1982	Y	3	Provider of specialized medical svc./prod.
28,218	64.71	384	65	0	1978	1984	N	1	Software developer
10,858	NM	380	54	0	1980	1983	Y	6	Mfr. robotics & artificial vision systs.
8,000 ^c	50.80	1950	1025	3	1947	1967	N	1	Mfr. toys & apparel
NA	NA	50	10	3	1979	1982	Y	13	Dist. via satellite of in-room TV to hotels
39,631	NM	600	50	0	1953	1983	Y	66	Mfr. computer hardware
NA	11.12	44	29	0	1977	1981	N	4	Mfr. radiant heating panels
9,000	133.50	3000	110	0	1973	1982	Y	69	Marketer of residential solar heating units
65,278	15.72	4500	500	1	1978	1981	Y	8	Operator of retail bldg. material stores
32,763	NM	204	68	1	1976	1983	N	1	Developer of information mgmt. systs.
3,619	121.79	15	3	0	1980	1984	N	33	Mfr. equipment for testing integrated circuits
15,096	NM	300	66	0	1978	1983	Y	7	Mfr. integrated circuits
NA	NA	2000	400	17	1970	1981	Y	9	Mfr. electronic medical equipment & devices
29,284	2.48	197	8	0	1979	1983	Y	51	Dist. microcomputer equip.
9,358	225.83	311	6	3	1979	1984	Y	63	Prod. of pickup truck bed liners
8,395	14.64	340	50	0	1977	1983	Y	10	Mfr. fiber optics communications
19,275	7.23	68	28	0	1976	1980	Y	12	Developer of prods. using genetic engineering
2,599	NM	50	7	0	1979	1983	N	4	Mfr. data storage communication systs.
NA	NA	258	140	7	1954	1980	N	7	Mfr. automatic agricultural equip.
5,600 ^c	12.66	92	9	0	1980	1983	Y	21	Mfr. telecommunication processors
NA	NA	400	120	1	1968	1981	N	3	Mfr. video games
31,727	NM	475	75	0	1979	1981	Y	10	Mfr. local area network systs.
2,896	24.73	98	10	0	1979	1983	Y	32	Mfr. automated test equip. for integrated circuits
14,400	NM	180	32	1	1979	1981	Y	9	Mfr. medical equip.
48,543	7.80	154	13	3	1972	1980	Y	3	Provider of mgmt. svc. to cardiac rehab. centers
2,870 ^c	29.80	55	3	1	1979	1984	Y	67	Dist. computer systs. to law & land title firms

Rank '85 '84	Company	Sales growth (1980-84)		Sales (\$000)		Net income (\$000)	
		Percent increase	Compound annual rate	'84	'80	'84	'80
51	ISO MEDICAL (Salt Lake City)	2,018	115	2,817	133	(1,243)	(790)
52	72 AVANT-GARDE COMPUTING (Mt. Laurel, NJ)	1,972	113	15,396	743	1,434	(397)
53	FLAIRS RESOURCES (Oklahoma City)	1,958	113	10,782	524	804	(223)
54	EMPI (Findley, MN)	1,885	111	6,293	317	169	(290)
55	PAGE AMERICA GROUP (New York City)	1,851	110	5,287	271	(4,895)	(263)
56	COMPUSHOP (Dallas)	1,817	109	44,100	2,300	1,393	0
57	BAY PACIFIC HEALTH (San Bruno, CA)	1,809	109	36,124	1,892	704*	94
58	AMERICAN HEALTHCARE MANAGEMENT (Dallas)	1,806	109	255,000*	13,378	9,500*	567
59	TOTAL ASSETS PROTECTION (Arlington, TX)	1,792	109	3,500	185	180	(256)
60	74 BYERS COMMUNICATIONS SYSTEMS (Atlanta)	1,787	108	28,563	1,514	(3,587)	(82)
61	NUTRI-FOODS INTL. (Montgomery, NY)	1,741	107	11,506	625	1,030	(39)
62	34 DATA SWITCH (Norwalk, CT)	1,734	107	37,000*	2,017	(3,480)*	159
63	29 PUBLISHERS EQUIPMENT (Carrollton, TX)	1,708	106	26,000*	1,438	300*	(746)
64	10 ATLANTIC SOUTHEAST AIRLINES (College Park, GA)	1,707	106	43,762	2,422	5,301	30
65	B. L. (Boulder, CO)	1,706	106	1,824	101	(592)	13
66	COLUMBINE EXPLORATION (Denver)	1,699	106	2,249	125	306	(167)
67	20 TANDON (Chatsworth, CA)	1,661	105	400,793	22,761	29,436	1,507
68	ACTION PACKETS (Ocala, FL)	1,640	104	2,140	123	79	NA
69	KELLY-JOHNSTON ENTERPRISES (Oklahoma City)	1,610	103	94,603	5,532	(333)	270
70	4 EMULEX (Costa Mesa, CA)	1,594	103	80,169	4,733	11,790	514
71	CHI-CHI'S (Louisville)	1,561	102	161,706	9,735	16,722	957
72	MARQUEST MEDICAL PRODUCTS (Englewood, CO)	1,536	101	14,187	867	1,705	(26)
73	55 POPE, EVANS & ROBBINS (New York City)	1,535	101	196,856	12,041	1,149	371
74	36 HCW (Boston)	1,523	101	16,566	1,021	6,711	638
75	INTERTRANS (Irving, TX)	1,499	100	37,292	2,332	963	27
76	9 ZITEL (San Jose, CA)	1,498	100	26,371	1,650	1,323	64
77	38 QMS (Mobile, AL)	1,489	100	31,835	2,003	5,024	295
78	54 TENDER LOVING CARE HEALTH (Lake Success, NY)	1,470	99	10,409	663	(1,394)	16
79	NELSON RESEARCH & DEVELOPMENT (Irvine, CA)	1,430	98	3,778	247	(204)	(155)
80	23 GENEX (Rockville, MD)	1,398	97	34,800	2,323	7,400	128
81	INFO DESIGNS (Bloomfield Hill, MI)	1,381	96	2,000*	135	99*	65
82	44 VIDEO CONNECTION OF AMERICA (Malibu, CA)	1,359	95	4,085	280	(648)*	(56)
83	INACOMP COMPUTER CENTERS (Troy, MI)	1,351	95	60,510	4,169	1,103	160
84	AMERICAN SOLAR KING (Waco, TX)	1,324	94	30,706	2,157	(5,221)	(494)
85	LOMAK PETROLEUM (Hartsville, OH)	1,317	94	20,000*	1,411	500*	(500)
86	BOGERT OIL (Oklahoma City)	1,263	92	14,285	1,048	1,089	(228)
87	XEREC (San Jose, CA)	1,261	92	157,700	11,591	838	161
88	47 DATASOUTH COMPUTER (Charlotte, NC)	1,258	92	18,395	1,355	1,817	131
89	TELCO SYSTEMS (Menlo Park, CA)	1,237	91	67,090	5,017	1,281	212
90	82 AGS COMPUTERS (Mountainside, NJ)	1,231	91	226,000	16,983	6,300	483
91	TELEPICTURES (New York City)	1,228	91	105,000*	7,909	9,300	429
92	15 INFORMATION RESOURCES (Chicago)	1,193	90	35,800	2,769	6,107	(121)
93	2 YANKEE (Cohasset, MA)	1,160	88	100,792	7,998	6,843	402
94	28 ALTOS COMPUTER SYSTEMS (San Jose, CA)	1,154	88	102,739	8,191	9,748	890
95	VECTOR AUTOMATION (Baltimore)	1,136	87	7,500*	607	(404)*	(428)
96	TRANZONIC (Cleveland)	1,135	87	48,059	3,891	2,161	358
97	59 COMAIR (Cincinnati)	1,113	87	32,220	2,656	2,836	(183)
98	CARRIAGE INDUSTRIES (Calhoun, GA)	1,103	86	75,024	6,239	4,105	(236)
99	INFORMATION SOLUTIONS (Englewood, CO)	1,087	86	13,043	1,099	121	81
100	32 NOVAN ENERGY (Boulder, CO)	1,086	86	11,180	943	(268)	(192)

NA: 12 month figure not available at press time; NM: negative return on equity; i: INC. estimate; c: company estimate; 9: nine-month figure

Shareholder Equity '84	Return on equity	No. of employees '84 '80		Acquisitions '80 - '84	Date inc.	Date public	CEO founder	CEO equity %	Business description
\$ 1,341	NM	45	25	0	1978	1980	N	2	Mfr. hypothermia medical systs.
17,569	354.95	136	18	1	1978	1984	Y	13	Designer of integrated software systs.
8,000	11.85	78	7	0	1976	1981	N	8	Oil & gas development/exploration
2,156	9.00	90	17	1	1977	1980	N	6	Mfr. medical equip.
3,803	NM	175	6	2	1977	1982	Y	10	Marketer of radio paging systems
8,876	17.13	335	47	2	1976	1983	Y	10	Retailer of personal computer systs.
NA	NA	80	40	0	1978	1984	Y	3	HMO
NA	26.65	5700	49	14	1978	1984	Y	22	Operator of health care facilities
3,580*	NM	65	7	0	1980	1984	Y	11	Supplier of computer assets protection svcs.
5,735	NM	572	25	0	1977	1983	N	0	Supplier of svc. for telecommunication systs.
1,344	565.93	100	20	0	1976	1984	Y	21	Mfr. frozen dessert prods.
NA	NA	399	39	0	1976	1982	N	30	Mfr. data processing control systs.
9,000*	4.64	320	25	2	1979	1983	N	2	Re-engineering of printing presses
18,214	41.07	572	50	1	1979	1982	Y	6	Regional airline
2,626	NM	24	15	1	1978	1983	Y	15	Mfr. electronic identification systs.
1,621	20.82	17	3	0	1976	1977	N	4	Oil & gas exploration
241,850	13.88	1550	150	0	1975	1982	Y	10	Mfr. computer disk drives
1,289	57.25	35	2	0	1980	1984	Y	52	Distributor of gift shop items
52,340	NM	4500	1400	9	1980	1981	Y	9	Operator of quick-service restaurants
43,620	37.99	813	175	1	1979	1982	Y	8	Mfr. electronic communications prods.
95,291	43.84	12000	8000	3	1977	1982	Y	1	Developer/operator/franchisor of restaurants
21,068	82.33	320	30	7	1979	1983	Y	10	Supplier of medical prods. & svcs.
44,263	2.70	417	200	4	1926	1969	N	3	Mfr. protective fabrics & clothing
33,269	47.92	151	12	0	1975	1982	Y	7	Oil & gas partnerships
5,029	83.38	182	30	2	1979	1984	Y	19	International cargo transportation
11,937	58.75	135	25	1	1979	1983	Y	7	Mfr. semiconductor memory systs.
22,035	29.86	278	37	0	1977	1983	Y	22	Mfr. intelligent printing processors
2,637*	NM	125	15	4	1978	1983	Y	14	Provides health care svcs.
26,410	NM	33	15	0	1972	1981	Y	14	Pharmaceutical research
30,600	19.53	264	70	0	1977	1982	Y	8	Developer of prods. using genetic engineering
NA	NA	32	3	0	1980	1983	Y	51	Mfr. computer software
NA	NA	22	3	0	1979	1983	Y	63	Dist. of video prods.
14,020	45.98	275	25	3	1976	1984	Y	20	Retailer of personal computers
5,369	NM	500	90	2	1974	1980	Y	3	Mfr. solar prods.
4,000	11.53	125	22	0	1976	1980	Y	10	Oil & gas exploration
13,812	8.59	81	30	0	1979	1980	Y	54	Oil & gas exploration & prod.
74,480	1.15	1310	79	6	1974	1983	Y	35	Mfr. disk drive controllers
15,663	13.12	220	38	0	1977	1983	Y	18	Mfr. serial dot matrix impact printers
22,452	14.77	613	90	2	1972	1984	N	4	Mfr. voice frequency transmission prods.
42,017	17.89	1970	285	10	1967	1969	Y	8	Developer of custom software
NA	30.24	250	10	4	1978	1979	Y	5	Dist. TV programs & motion pictures
225	22.92	527	61	0	1977	1983	Y	21	Market research
28,928	363.60	235	75	2	1977	1982	Y	21	Oil & gas transportation & svcs.
91,028	12.13	500	57	0	1977	1982	Y	43	Mfr. of multi-user microcomputers
NA	NA	108	31	0	1980	1984	Y	24	Mfr. interactive computer graphics systs.
19,843	12.00	700	200	1	1910	1961	N	3	Mfr. feminine hygiene products
16,089	64.54	526	68	0	1977	1981	Y	16	Regional airline
8,866	86.22	510	107	0	1969	1984	N	10	Mfr. & dist. of carpets
3,790	3.26	69	10	3	1980	1983	Y	18	Dist. of database, turnkey computer systs.
2,509	NM	100	85	0	1978	1980	Y	14	Mfr. solar water heating appliances & components

Investing in Growth Companies

GRIN AND BEAR IT

Our portfolio of INC. 100 stocks is only hypothetical. Lucky for us.

BY ROBERT A. MAMIS

Readers who look forward with even modest expectations to INC.'s annual foray into the market might do better these days cheering for some other bunch. The Chicago Cubs, say; they can be equally frustrating, but at least they serve beer in the grandstand. Alas, investing in the common stocks of the country's 100 fastest-growing public companies was a losing proposition on balance for the second straight year.

Not that any real-life investor lost money. Every year, INC. reaches back 12 months to establish the basis prices at which the equities of the INC. 100 could have been bought. In practice, though, there is no way an investor could know which ones to purchase until a year later, when the annual roundup is concluded. So the exercise performed herein—purchasing \$100 worth of each issue on March 1, 1984 (or on an initial public offering date during the year), then selling the portfolio a year later—is purely academic.

That doesn't make it any more pleasant to behold. With this year's 11% drop, INC. 100 stocks now have given up 27% of their value in the past two years. Maybe that is tolerable for a gaggle of high rollers in a bear market in which everybody throws snake eyes, but the 12 months in question this time constituted at least something of a bull market. Indeed, even the 24-month span from March 1983 to March '85 ended up generally profitable for most investors. Among other popular averages in the same two years, the Dow Jones Industrials gained 16%; the American Stock Exchange Index, 20%; and the Standard & Poor's 400—a wide sampling of estab-

lished corporations—an impressive 22%, yielding more than the money market for the first time in several years. Only the NASDAQ Industrials, along with INC., suffered a collective two-year loss, but NASDAQ's was a trifling 1%, thanks to this winter's rebound of the over-the-counter market. Oddly, no fewer than 94 of the INC. 100 stocks are traded OTC, yet they fared dramatically worse than their average brothers.

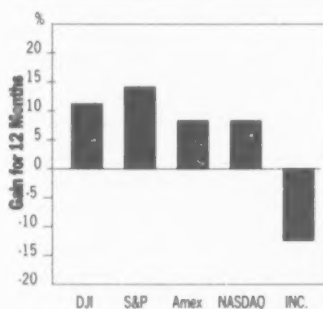
It is yet more dismaying to note that on March 1, 1985—the day INC. was des-

tined to "sell" its fanciful \$10,000 portfolio at a discount of \$1,142.89—the creaky Dow celebrated an all-time record, brushing against 1,300. A paltry 37 of the 100 stocks showed a 12-month profit on that day. If that sounds discouraging, readers may take some heart in noting that the sum is 10 more than the 27 issues that managed gains last year. But not too much heart: Despite these additional pluses, the median stock lost \$22.55—a little worse than last year's median of \$21.82.

Among the 37 winners, 7 were born of IPOs during the period. Only five public offerings on the INC. list ended up losing ground from their offering price—and at that, not losing as much as the median stock, save for MicroPro International (#26), which ended up in 92d place. The continuing relative strength among these toddlers might ultimately bode well for the entire body of small-capitalization stocks. But the test of that surmise will have to wait for next year's less tattered malion (one hopes) gathering.

Outside of the IPOs, the common stocks of a mere 30 of the remaining 88 "senior" companies met any buying demand. And more than a few issues that performed comparatively well in last year's compilation about-faced and fared comparatively poorly in this year's. That is one reason why stock-market players haven't placed much credence these days in rapid expansion of revenues: In the unstable kingdom of fast growth, fortunes granted under one regime can be confiscated by the next, almost overnight. Byers Communications Systems (#60), for example, was INC.'s leading stock-market gainer last year, up a then-enviable 148%. This year it is a leader, all right—but on the downside. After the stock's drop of nearly 90% in the past year, buyers of Byers ended up losing almost three-quarters of their investment if they held on for 24 months. Despite soaring sales, the cable television company got bogged down in cost overruns, bad debts, and contract litigation. (continued)

INC. vs. POPULAR AVERAGES



RELATIVE MARKET PERFORMANCE

	3/1/84	3/1/85	% gain
INC. 100	\$ 100	\$ 89	(11)
DJI	1,171	1,299	11
S&P 400	180	205	14
Amex	213	228	7
NASDAQ	291	311	7

Since the criteria for inclusion in the INC. 100 rule out such capital institutions as banks and holding companies, INC. pits the stock market performance of its entries against the industrial components, rather than the composites, of common stock indexes. Unlike the other averages, INC.'s "average" is reborn each year with a new group of stocks (see text), and so cannot be compared with past listings.

Prices can continue to fall rapidly while revenues continue to rise rapidly—a lose/lose trend that defies all principles of finance except the one that counts here, namely the stock market's. Healthdyne (#37), for example, on the INC. 100 four years in a row, has seen its common fall straight out of bed, from \$27.08 to \$3.38 since March 1983. Genex (#80) similarly shriveled from \$17.94 to \$6.13. True, when stocks take baths like that it is often because the cost-of-goods-sold growth rate

has exceeded that of sales, but not always. Pope, Evans & Robbins (#73), a manufacturer of protective fabrics and clothing, faded by 60% in two years in the face of sizable increments in per-share earnings. So go figure.

There is at least some cause for rejoicing this year. In one industry represented on the list, all participants were able to post profits. Led by the INC. 100's top gainer, Atlantic Southeast Airlines (#64) at 213%, all five air carriers appropriately

took off, posting an average gain of 76%.

Overall, however, the record is discouraging. For a gathering of cheeky growth-company kids to be beaten by the dowdy Dow in a bull market is like a major-league baseball team dropping two straight to a collection of old-timers. It oughtn't to happen, and die-hard fans know that eventually the law of averages will catch up. Until then, as any disappointed fan gets used to saying, all we can do is wait till next year. □

INC. 100 MARKET PERFORMANCE

Company (symbol/exchange)	1985 rank	3/84	3/85	\$100 worth	Company (symbol/exchange)	1985 rank	3/84	3/85	\$100 worth
1. Atlantic Southeast Airlines (ASAI/O) ¹	64	\$6.00	\$18.75	\$312.50	51. StarTel (STAS/O)	44	4.13	3.13	75.76
2. Fibronics International (FBRX/O)	40	7.00	16.50	235.71	52. Centel (CENT/O)	45	2.38	1.75	73.68
3. QMS (QMSI/O) ²	77	7.44	15.00	201.68	53. U. S. Design (USDC/O)	17	6.63	4.88	73.58
4. Nutri-Foods Int'l (NUTR/O) ³	61	4.00	7.88	196.88	54. C. P. Reish (CRHB/O)	49	12.50	9.00	72.00
5. Telepictures (TPX/O)	91	12.50	21.25	170.00	55. Plaine Resources (PLNS/O)	53	2.63	1.88	71.43
6. 3Com (COMS/O) ⁴	22	6.00	9.88	164.58	56. Quot Medical (QMED/O)	48	5.75	4.00	69.57
7. Telco Systems (TELC/O)	89	12.25	20.00	163.27	57. Nelson Research & Develop. (NELR/O)	79	12.75	8.75	68.63
8. Walker Telecommunications (WTEL/O)	13	7.50	12.13	161.67	58. TVI Energy (TVIE/O)	31	1.75	1.88	67.86
9. Home Health Care (HHCA/O)	25	6.75	10.88	161.11	59. Ziyad (ZIAD/O)	21	11.50	7.50	65.22
10. Endevco (ENDV/O)	9	4.88	7.63	156.41	60. Lomak Petroleum (LOMK/O)	85	1.25	0.813	65.00
11. IDEA (IDEA/O) ⁵	47	5.83	8.75	150.00	61. Micro D (MCRD/O)	38	8.00	5.13	64.06
12. Intertrans (ITRN/O)	75	5.75	8.63	150.00	62. AGS Computers (AGSC/O)	90	22.25	14.00	62.92
13. Ungermann-Bass (UNGR/O)	7	14.25	21.25	149.12	63. Teletex (TSTR/O)	29	0.25	0.16	62.50
14. Expeditors Int'l (EXPDI/O) ⁶	2	9.00	13.25	147.22	64. B. L. (BIAC/O)	65	0.25	0.16	62.50
15. Savoy Industries (SAVO/O)	28	0.88	1.25	142.86	65. Datasouth Computer (DSCC/O)	88	7.00	4.25	60.71
16. Simmons Airlines (SIMM/O)	18	7.00	9.50	135.71	66. Carvas Systems (CRVS/O)	46	6.88	4.13	60.00
17. Comair (COMR/O) ⁷	97	11.43	15.50	135.63	67. Convergent Technologies (CVGT/O)	1	17.50	10.50	60.00
18. Solcon Computer (SULC/O) ³	50	5.00	6.75	135.00	68. Chi-Chi's (CHIC/O)	71	19.25	11.25	58.44
19. Marquest Medical Products (MMPI/O)	72	8.25	11.00	133.33	69. Emulox (EMUX/O)	70	19.50	10.75	55.13
20. Fine Art Acquisitions (FAAA/O)	23	1.63	2.13	130.77	70. American Solar King (AMSK/O)	84	6.88	3.75	54.55
21. Reid-Ashman (REAS/O)	35	6.75	8.75	129.63	71. Kaypro (KPRO/O)	30	7.38	4.00	54.24
22. Altes Computer Systems (ALTO/O)	94	9.75	12.63	129.49	72. HCW (HCWO/O)	74	10.25	5.25	51.22
23. Collagen (CGEN/O)	16	10.25	13.25	129.27	73. Zitel (ZITL/O)	76	9.00	4.50	50.00
24. Bay Pacific Health (BPHC/O) ⁸	57	5.50	7.00	127.27	74. Video Connection of America (VIDC/O)	82	2.00	1.00	50.00
25. Carlson Industries (DRKN/O) ⁹	39	10.50	13.25	126.19	75. Yankos (YNA/O)	93	14.13	6.876	48.67
26. Home Depot (HD/N)	33	15.75	19.75	125.40	76. Genex (GNEX/O)	80	13.00	6.13	47.12
27. Enzo Slocum (ENZO/O)	41	16.75	20.00	119.40	77. Publishers Equipment (PECN/O)	63	6.25	2.88	46.00
28. Hybritech (HYBR/O)	10	15.25	18.13	118.85	78. Tensar Loving Care (TLCI/O)	78	7.13	3.25	45.61
29. Bogert Oil (BOGO/O)	86	0.75	0.88	116.67	79. Automatik (AITX/O)	27	16.50	7.50	45.45
30. Action Packets (ACTN/O) ¹⁰	68	5.50	6.38	115.91	80. Helm Resources (H/A)	43	2.13	0.94	44.12
31. Information Resources (IRIC/O)	92	27.50	31.50	114.55	81. Xebec (XEBC/O)	87	14.75	6.50	44.07
32. Information Solutions (ISOL/O)	99	3.50	4.00	114.29	82. Hegan Systems (HOGN/O)	20	14.88	6.50	43.70
33. Manator Systems (MSCO/O)	34	5.75	6.50	113.04	83. Yarcos (TCOR/O)	67	15.75	6.75	42.86
34. Transonic (TNZ/A)	96	14.75	16.50	111.86	84. Compustep (CSHP/O)	56	9.25	3.75	40.54
35. Buffon (BUFF/O)	3	1.38	1.50	109.09	85. Connel Restaurants (CNLS/O)	19	13.88	5.50	39.64
36. Enpi (EMPI/O)	54	6.50	7.00	107.69	86. Leo Data (LEDA/O)	6	17.00	6.63	38.97
37. ComputerCraft (CRFT/O)	8	7.00	7.38	105.36	87. G. D. Ritz's (RITZ/O)	12	6.50	2.50	38.46
38. Flii/tec (FTEC/O)	14	17.75	17.25	97.18	88. ZyMOS (ZMOS/O)	36	5.75	2.06	35.87
39. Micron Technology (DRAM/O) ⁹	4	14.00	13.00	92.86	89. Data Switch (DASW/O)	62	22.00	7.75	35.23
40. Pinetree Computer Systems (PNTR/O)	42	1.38	1.25	90.91	90. Protocol Computers (PCIL/O)	24	7.25	2.50	34.48
41. American Healthcare Mgmt./AHI/A) ⁹	58	10.00	9.00	90.00	91. Healthdyne (HDYN/O)	37	12.25	3.38	27.55
42. Total Assets Protection (TAPP/O) ¹¹	59	5.00	4.50	90.00	92. MicroPro International (MPRO/O) ⁴	26	10.50	2.75	26.19
43. Page America Group (PAGE/O) ⁹	55	2.50	2.13	85.00	93. Columbian Exploration (COLX/O)	66	0.63	0.16	25.00
44. Carriage Industries (CARG/O) ⁹	98	7.00	5.88	83.93	94. Novan Energy (NOVN/O)	100	0.25	0.06	25.00
45. BSD Medical (BSDM/O)	51	6.00	5.00	83.33	95. Vector Automation (VCTA/O)	95	4.75	1.13	23.68
46. Avant-Garde Computing (AVGA/O)	52	16.50	13.75	83.33	96. Salico (STEL/O)	5	4.00	0.88	21.88
47. Pope, Evans & Robbins (PER/A)	73	7.13	5.88	82.46	97. Info Designs (INFO/O)	81	6.00	1.25	20.83
48. Fueltrucks (FUDT/O)	15	13.50	11.13	82.41	98. On Potato Two (SPUD/O)	11	11.50	1.63	14.13
49. Inconsp Computer Centers (INAC/O)	83	8.75	7.13	81.43	99. Kelly-Johnson Enterprises (KEJO/O)	69	8.13	1.06	13.08
50. Servomatic Systems (SSSI/O)	32	3.00	2.38	79.17	100. Byers Comm. Sys. (BYCM/O) ¹²	60	13.00	1.38	10.58

¹3:2 split, 11/84; ²2:1 split, 9/84; ³first public 4/84; ⁴first public 3/84; ⁵3:2 split, 9/84; ⁶first public 9/84; ⁷5% stock div., 10/84; ⁸first public 11/84; ⁹first public 8/84; ¹⁰first public 12/84; ¹¹first public 5/84; ¹²3:2 split, 3/84

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THE MAGAZINE FOR
GROWING COMPANIES

Inc.

JUNE 1985
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NETWORKING '85 WELCOME TO THE AGE OF COLLABORATION!

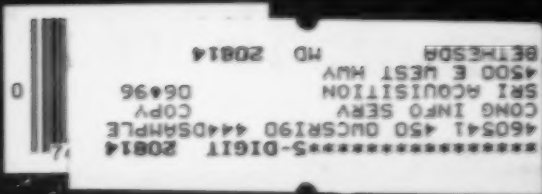
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are banding together to
solve one another's
problems.

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Forging new
relationships between
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HEDGING BETS

Contracts May Help Small Stocks

Small companies trading over the counter have a tough time attracting dollars from such conservative investors as pension-fund managers, who prefer to take their roller-coaster rides in amusement parks. But



The Chicago Board of Trade plans to begin trading options on 100 of the largest NASDAQ stocks.

new financial instruments that are due next winter may reduce the risk and help companies raise money.

Pending regulatory approval, the National Association of Securities Dealers and the Chicago Board of Trade plan to begin trading put-and-call options and futures contracts on an index of about 100 of the largest nonfinancial NASDAQ stocks. By trading these contracts, investors can bet on whether the over-the-counter market—represented by the stocks on the index—will go up or down. Several indexes already exist for stocks listed on the New York and American exchanges.

The effect of index options is a matter of controversy, but some experts say these options could open new sources of capital for small companies.

Investors can use them as side bets to hedge investments in individual stocks. Such hedges "will make all the underlying stocks of the index more attractive for purchase," says Alvery Bartlett, president of Stock Index Futures Inc., a St. Louis-based brokerage. Institutional investors who think that lightly capitalized companies are too risky may reconsider. Established small companies may find it somewhat easier to issue new stock, and stock prices in general might creep slightly higher.

Index contracts guard against changes only in general market conditions. So stocks that move independently of the market are less likely to benefit from index contracts.

—Virginia Inman
INSIDER (continued)

SCORECARD

Take It Away, Mom and Pop

Americans are spending lavishly on their images, whether they want to dye their hair a brighter color or to cast their companies in a better light. Restaurants and gas stations are still the most common establishments, but beauty parlors and public relations firms are the fastest-growing categories among the top 20 small businesses, according to Dun & Bradstreet figures.

The do-it-yourself ethos exemplified by the hardware store seems to be ebbing. In its place is a get-somebody-else-to-do-it attitude and a boom in service businesses—everything from plumbers and electrical contractors to local truckers and auto repair shops. Consumers seem too busy even to mix their own drinks—from 1979 to 1984 the number of bars grew one third faster than the number of liquor stores.

What follows are the rates of growth and contraction among the most common businesses with annual sales of

less than \$1 million. Take it away, Mom and Pop.
—V.I.



"ENIAC, the first important digital computer, never lived

up to its potential, because tubes kept burning out in the middle of its computations. The Army... finally stationed a platoon of soldiers manning grocery baskets filled with tubes at strategic points around the computer, this proved little help, because the engineers could never tell which of the machine's 18,000 vacuum tubes had burned out at any particular time. The warmth and soft light of the tubes also attracted moths, which would fly through ENIAC's innards and cause short circuits. Ever since, the process of fixing computer problems has been known as 'debugging.'"

—The Chip, by T.R. Reid. Copyright 1985. Reprinted by permission of Simon & Shuster Inc.

Rank	Business	1984 Number	1979-84 % growth
1.	Eating establishments	174,876	16.5
2.	Gasoline service stations	100,213	-0.3
3.	Drinking establishments	95,246	34.9
4.	Grocery stores	95,127	9.3
5.	Plumbing/heating/air-conditioning	84,721	57.5
6.	General auto repair shops	62,949	59.4
7.	Gift/novelty shops	59,762	12.8
8.	Electrical work	55,948	66.2
9.	Sporting goods/bicycle stores	47,952	9.2
10.	Automotive home supply stores	47,645	7.6
11.	Local trucking without storage	46,129	76.8
12.	Management/public relations	44,697	181.9
13.	Furniture stores	44,336	-3.0
14.	Women's ready-to-wear	44,274	-1.5
15.	Liquor stores	41,639	22.0
16.	Hotels/motels/tourist cottages	37,948	65.7
17.	Beauty shops	37,310	153.2
18.	Hardware stores	34,017	-3.4
19.	Engineering/architectural services	33,859	110.8
20.	Auto equipment (wholesale)	33,177	-2.2

Sources: The Dun & Bradstreet Corp., Don't Census of American Business

THE MAGAZINE FOR
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Inc.

JULY 1985

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THE SPIRIT OF INDEPENDENCE

*Voices
from America's
Economic
Frontiers*

.....

Ronald Reagan

Michael Levy

Alicia Paige

William Rukeyser

Youa Her

Stewart Brand

J. Presper Eckert

William Hewlett

David Packard

Ann Eis

Jack Eckerd

Jim Cox

Gale Sayers

Xavier Roberts

Mary Kay Ash

John Akers

Andrew Kay

David Kay

Barbara Procter

William Winpisinger

Frank Borman

Francis "Skip" Carroll

Lester Thurow

T. Boone Pickens

Kevin Phillips

Michael Dukakis

Allan Gallant

Rafael Collado

Joel Hyatt

Susan Hyatt

Maynard Jackson

Rosemary Ruiz



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THE SPIRIT OF INDEPENDENCE

Something remarkable is happening in America. An entrepreneurial renaissance is under way, the likes of which we have not seen in 60 years. All across the country, people are starting companies at a record-breaking pace. But the statistics tell only part of the story. Who are the men and women launching these companies? How are they changing the world of business? Where are they going? Who is being left behind?

This spring, INC. senior editor Curtis Hartman traveled around the United States, tape recorder in hand, talking to the people who are reshaping the American economy, and who are being reshaped by it. His goal was not to tell their story, but to let them tell it, in their own voices and words.

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MAKING WAVES

On LPTV, Entrepreneurs Have Starring Roles

JEFFREY NIGHTBYRD IS ONE television executive who doesn't care a bit about Wall Street's big media takeovers. His own growth strategy relies on starting enough television sta-



Low Power Technology's Jeffrey Nightbyrd hopes to attract national advertisers with college-age viewers.

tions to build a national network from scratch.

For him, and for hundreds of other entrepreneurs tuning in to low-power TV (LPTV), the challenge is winning over viewers and advertisers that are already overwhelmed by entertainment choices. Nightbyrd is president of Low Power Technology Inc., which operates two LPTV outlets whose signals reach a fraction of the distance of traditional stations. After authorizing the service in 1982, the Federal Communications Commission was crushed with applicants—there is still a backlog of 20,000—wanting to bring local programming to underserved areas. Nearly 300 stations are on the air, a number that will probably double soon.

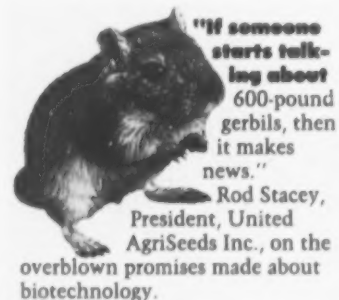
An LPTV outlet costs about \$500,000 to build, around one sixth the price of a full-power station. Many count on advertising from local retailers. "From an advertiser's point of view, it's buying TV time at radio costs," says Rick Hutcheson, president of Local Power Television Inc., which owns three LPTV outlets and has three more in the works.

Nobody knows if LPTV can put on a profitable show. One winning strategy

may be to own a network of stations that deliver similar viewer demographics, thereby attracting national advertisers. Nightbyrd is targeting college-student audiences, but first has to convince investors of that market's potential. "All I've gotten are some big-league flirtations from some venture capital firms," he says.

Investors may be discouraged that much of the current programming—reruns, religious services, and music videos—is about as stimulating as a test pattern. John Kompas, a Milwaukee consultant, says that programs highlighting local events and people will be a key to success. LPTV will also

improve, he says, when "the people who supply programming become aware of the market." —J.H.



"If someone starts talking about 600-pound gerbils, then it makes news."

Rod Stacey, President, United AgriSeeds Inc., on the

overblown promises made about biotechnology.

SCORECARD

Walking Under Ladders

The skyrocketing cost of liability insurance is having serious consequences for businesses. High legal and insurance costs have led two drug companies to curtail production of vaccines that protect children from whooping cough. And many small companies can't get adequate liability insurance for their officers and directors.

Of course, these businesses aren't the only ones bearing the costs of a litigious society. It may not really be bad luck to walk under ladders, but it certainly must seem so to the companies that produce them. When people hurt themselves with a ladder, they tend to blame the company that made it. Amazingly, ladder manufacturers pay more than 8% of sales for product-liability insurance, according to the Insurance Services Office Inc. (ISO), which develops standardized forms and recommends rates for the industry.

"We've been sued on probably six or seven occasions in the past 10 years



for ladders we didn't even make. That's outrageous," says W. A. Flint Jr., president of A. W. Flint Co., a 105-year-old family business in New Haven.

Here are the highest advisory rates for product-liability insurance that pays claims of up to \$25,000 for combined bodily injury and property damage—the type bought by small businesses that are likely to incur limited liability. These are the ISO's base rates and don't include discounts for deductibles, which can cut the rate in half in some cases. —V.J.

Rank	Product	Insurance cost as % of sales
1.	Wooden ladders	8.7
2.	Other ladders	8.0
3.	Wheels, including car & truck wheels	2.7
4.	Drugs, medicine, & pharmaceuticals	2.5
5.	Exercise & playground equipment	1.5
6.	Sporting goods/athletic equipment	1.5
7.	Household-type power tools	1.3
8.	Machinery & machine parts	1.3
9.	Drugs, medicine, & pharmaceuticals for animals	1.1
10.	Elevators	1.1

Source: Insurance Services Office Inc.

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THE MOST ENTREPRENEURIAL
CITY IN AMERICA
(See page 54)

THE MAGAZINE FOR
GROWING COMPANIES

Inc.

THE TAKE AT THE TOP

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Rewarding Top Executives

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Start-Up: Reinventing
the Family Business

Assessing
the Reagan Tax Plan

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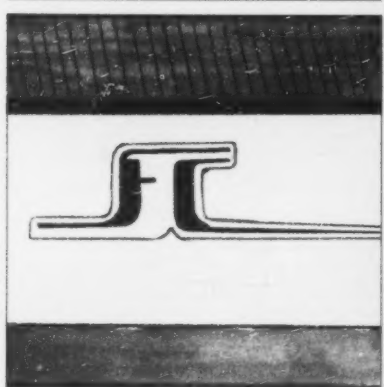
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When the ruling Social Democrats proposed one tax too many, 100,000 Swedish businesspeople took to the streets in protest—and that was just the beginning.

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96 **Paper planes**

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Flight Transportation Corp. was one of the hottest aviation stocks around, but—when the federal investigators moved in—they found a company that existed mainly on paper. So how had it managed to get through three public offerings without anybody blowing a whistle?

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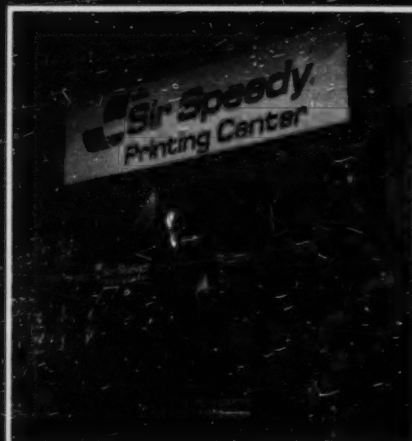
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ture to help them make better plastic molds. The Chinese wanted him to export the lower-grade molds that they were already producing. "It has to be a two-way deal," says Rosenholm, who turned it down. "You also have to buy something from them."

—Joe Rosenbloom III

Times Change in Pittsburgh, the spiritual center of the Rust Belt, high-technology workers now outnumber steelworkers. While the steel business continued to disintegrate, the number of high-tech jobs grew last year at a rate of 29%, to at least 44,000. If this trend continues, local business leaders expect 1,000 high-tech companies in the area by 1990, compared with about 400 today.

NEW MARKETS

Suppliers Weaned from Declining Industries

SMALL SUPPLIERS TO DECLINE. Industries have had a brutal time in the 1980s. But beyond the fields littered with casualties are some companies that used the difficult period to rethink their strategy, eventually adapting their strengths to new growth markets.

Independence Foundry and Manufacturing Co., of Independence, Mo., weaned itself from troubled customers in the auto, steel, and agricultural-tool businesses. For decades, the company was a supplier of cast-iron parts. "We felt like slaves to the bigger industries," says Independence president John Mitchell. "We have had

half a dozen customers that just sort of ran our lives. We decided we'd had enough of that."

Mitchell focused on the consumer market instead. After scouting retail stores, he decided to use the mill's strengths—its casting and porcelain-coating capabilities—to make gourmet cooking pots. Now Independence markets them through L. L. Bean and Brookstone catalogs, and profit margins have quintupled, reaching 15% to 20% of sales. "We had always wanted to be more market-oriented," says Mitchell. "The cookware business has forced us to be."



President John Mitchell has repositioned Independence Foundry into the retail cookware business.

SCORECARD

No Free Lunch

Business meal expenses are under scrutiny again. The Reagan Administration's tax package would permit companies to deduct all of their meal expenses up to \$25 per person per meal. Above that limit, only half the expenses would be deductible.

The plan could mean trouble for your company, depending on where and when you dine. A recent survey by Laventhol & Horwath, the national accounting firm, found that meal costs exceed \$75 a day, including tax and tip, only in New York City. But dinner runs more than \$25 in 52 cities—and these figures don't include any of the wine and liquor that often accompany business meals. With drinks, an executive could easily run up a \$40 lunch bill in many locations.

Costs vary widely. In New York City, a dinner of shrimp cocktail, prime rib, salad, vegetables, ice cream, and coffee costs an average of \$47.79; you can eat the same meal in Melbourne, Fla., for only \$17.03.

L&H found that the average cost of travel, including meals, lodging, and rental car, was \$137.66 a day. Some cities were surprisingly inexpensive in one category but scored high overall. Boston and Philadelphia, while not in the top 10 for meal costs, ranked second and fifth overall because of expensive hotel rooms and rental cars. Once again, Melbourne had the lowest overall costs—\$96.51 a day, just a bit more than the cost of three meals in the Big Apple. Here are the 10 cities with the highest meal costs. —V.I.

Rank	City	Breakfast	Lunch	Dinner	Total
1.	New York City	\$ 4.72	\$25.26	\$47.79	\$87.77
2.	Washington, D.C.	10.85	18.68	35.24	64.77
3.	Dallas	11.90	19.68	32.24	63.82
4.	San Francisco	12.33	19.06	31.90	63.29
5.	Santa Barbara, Calif.	10.67	16.12	32.39	59.18
6.	Seattle	10.01	16.22	31.37	57.60
7.	Houston	10.61	15.75	31.17	57.53
8.	New Orleans	9.45	16.80	30.75	57.00
9.	Chicago	9.40	14.74	32.28	56.42
10.	Los Angeles	9.82	16.75	29.15	55.72

HANK YOUNG/BLACK STAR

Another company, Hall Industries Inc., of Pittsburgh, has undergone a similar reorientation. Since 1966, Hall has derived more than 50% of its revenues by making ladles, furnace parts, and other steel-mill equipment for such giants as United States Steel Corp. and Jones & Laughlin Steel Corp. When the industry collapsed in the early 1980s, Hall laid off half of its 120 employees.

Yet Hall has doubled its prerecession sales to almost \$5 million. Seventy percent comes from new business that leverages the company's old production strengths with an emphasis on engineering. Hall now does \$2 million of work in transportation, including development of the carriage for Pittsburgh's light rail system. "Because we're small and flexible, we found that our manufacturing could help our engineering, and our engineering could help sell our manufacturing," says Jonathan Hall, the company's vice-president. —Greg Critser

THE TAKE AT THE TOP

Gain-sharing, revenue-sharing, equity participation, and more bonus systems than you can shake a stick at—when it comes to rewarding key employees, the days of the old-fashioned merit raise are numbered. BY TIM SMART

On a table in the corner of Ken Swanson's neatly appointed Silicon Valley office sits a box with a \$10,000 Rolex watch inside. It is a none-too-subtle reminder of the stakes that Swanson encourages his young managers to play for. Swanson's seven project managers know that if any of them brings \$500,000 in gross profits to Swanson's \$20-million construction company, he will wind up with a watch just like the one on the table.

The Rolex might seem a bit superfluous at a company where young managers in their mid-twenties can earn upward of \$100,000 a year, but it is an example of the enticements that owners of fast-growing companies dangle in front of key employees. The incentives may differ from company to company—a one-week, all-expense paid Caribbean cruise, a late-model BMW, a \$100 bill, even a six-pack of beer—but the purpose is the same. When a company wants to spark sales, push profits to new highs, or reduce ever-escalating expenses, there is no surer way to get an employee's attention than to reward his performance with pay.

Unlike the world of big business, where regimented compensation schemes designed by well-paid consultants are the norm, the policies and practices followed by the 516 companies that answered INC.'s Executive Compensation Survey are as varied as they are original. At John Stack's \$25-million Springfield Remanufacturing Center Corp., in Springfield, Mo., the keystone of the plan is an 82-page financial statement that is distributed monthly to the company's 200-plus employees. Each employee, from chief executive officer to broom pusher, has performance standards and incentive bonuses; with the monthly statement, each worker can measure how big his or her bonus will be. In Green Bay, Wis., Ryan Transfer Corp. president Bill Ryan follows a much simpler system: Every driver with more than a year's seniority at his

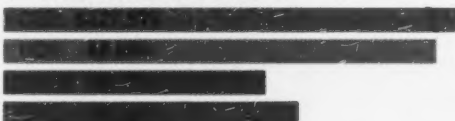
How your pay stacks up— by revenues

The most important factor affecting the average compensation for top executives is the size of the company. Figures represent total compensation—base salary and bonus.

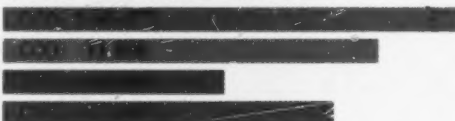
\$10 million or more



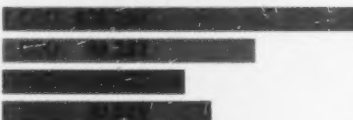
\$5 million to \$9.9 million



\$2.5 million to \$4.9 million



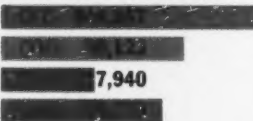
\$1 million to \$2.49 million



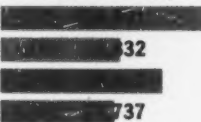
\$500,000 to \$999,000



\$250,000 to \$499,999



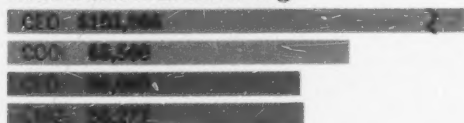
Less than \$250,000



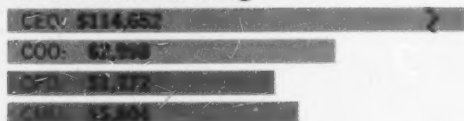
How your pay stacks up—by industry

Manufacturing, both durable and nondurable, continues to offer the highest pay for top executives, while service companies trail behind.

Nondurable manufacturing



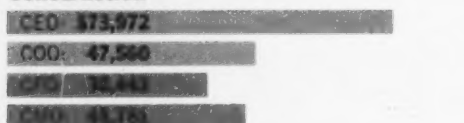
Durable manufacturing



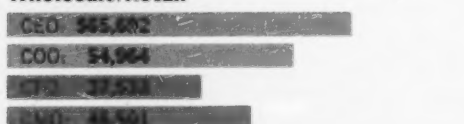
Finance/Insurance



Construction



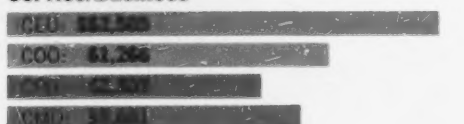
Wholesale/Retail



Service/Professional



Service/Business



trucking company gets paid a percentage of the weekly revenues.

Implicit in both of these approaches is an attempt to tailor compensation plans to fit the specific needs of each company. As the owners and managers of small to medium-size private companies will attest, there are no set formulas, no panaceas, no clear paths to follow when it comes to setting pay strategies for the employees who make their companies tick. "Like everybody, I'm constantly searching for the magical formula to keep them motivated," says Robert Clark, the owner of Fort Collins, Colo.-based Concept Systems Inc., a 15-employee producer of educational materials for scuba-diving schools.

Many small companies find it especially hard to decide which employees should be singled out for special "executive" treatment, if only because the efforts of one group of workers are often hard to separate from those of another. In response, more and more are linking executive compensation to overall employee compensation and, in some cases, opting for a single compensation system rather than the traditional multitiered approach.

This is one trend suggested by the survey responses, and there are others. They include: tying incentives to specific performance goals, spreading ownership among more employees, and deemphasizing the role of fixed salaries in the overall pay package. It is, of course, difficult to discern how strong or potentially long-lasting any of these trends might be, but they do indicate some of the ways that small companies are thinking about executive compensation.

Trends aside, there are many similarities between the results of last year's and this year's executive compensation surveys, which were both carried out with the assistance of Peat, Marwick, Mitchell & Co., the accounting and management consulting firm. The respondents are overwhelmingly founders, owners, or operators of private companies that have average annual sales of about \$4.5 million. The companies are new to the battlefield of American business—two thirds did not exist 15 years ago. They average 49 employees and span the business spectrum from management consulting to steel-making.

Total compensation for chief executive officers averages \$82,494, up 19% from last year's \$71,797. By comparison, the chief operating officer averages \$61,044, the chief financial officer \$48,426, and the chief marketing officer \$52,124. The average CEO tends to be bullish on prospects for his business. Ninety percent of the companies expect to see their sales increase next year, with a little over a third anticipating revenue increases of more than 20%.

An overwhelming majority of the respondents, 86%, report a lack of any long-term incentive plans for their top people. Perhaps that is because many are young companies, where management is consumed with making ends meet rather than worrying about the distant future. Incentive stock options,

Survey profiles: The Chief Executive Officer

Total compensation	\$82,495
Base salary	\$62,080
Percent receiving bonus	59%
Bonus as a percentage of base salary	45%
Percentage change in total compensation	+19%
Age	45
Years in position	9
Years with company	11
Founder	71%
Board member	80%
Stockholder	92%
Average equity position	67%

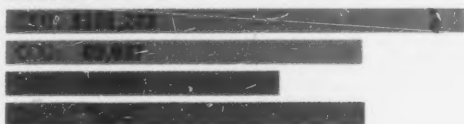
The Company

Net revenues	\$4,481,526
Net pre-tax income	\$288,190
Payroll	\$1,000,465
Payroll as a percentage of revenues	22.3%
Employees	49
Projected revenue increase for next fiscal year	15%
Age of company	9 years
Percentage private	95%

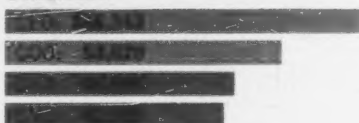
How your pay stacks up—by region

Executives on the coasts make out noticeably better than their counterparts in the rest of the country, with the Northeast the best-paying region.

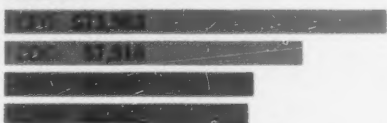
Northeast



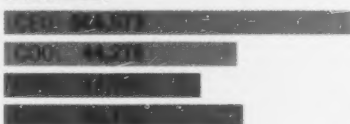
Southeast



Midwest



Southwest



West



popular among the nation's biggest industrial companies, are in place at only 6.5% of the respondents to the INC. survey, reflecting the traditional reluctance of owners of closely held companies to dilute their own holdings.

This doesn't mean, however, that companies have neglected forms of compensation other than straight salaries. Thirty-seven percent of the companies have taken steps to improve compensation other than salary during the past year, many adding such benefits as supplemental life and medical insurance or such perquisites as company cars and country-club dues and expenses. Often, these moves are in response to an outside threat—a competitor's attempt to hire away a key manager, for example. In general, the companies have the same mix of benefits found at larger, more established enterprises. A great majority offer medical and life insurance, and more than a third have profit sharing.

The company car is still the executive perk of choice, with supplemental life insurance a close second.

As for their general thoughts about compensation, more than half of the respondents, 52%, say that establishing pay levels is their primary concern. Last year, the chief worry was controlling the spiraling rise in benefit costs. Peter T. Chingos, who heads Peat Marwick's executive compensation and personnel consulting unit, suggests that this change reflects economic trends more than anything else. Inflation has cooled, relieving some of the pressure of the increasing cost of employee benefits. A stronger economy has also led some companies to worry about whether their pay scales are sufficient to retain valued employees.

That concern has also fueled the trend toward performance-based compensation systems. "I think that there's a movement much more toward the tying of the reward systems of the individuals to the results of the company," says Bill Ryan, owner of the trucking company. "I also perceive that there's a movement on the part of a lot of employees, a desire to participate, almost a demand to participate, in the results. I think that those two concepts are somewhat linked, that if we do good and I contribute to that, then I want to participate in that in relationship to my contribution."

There is another reason that more companies are turning to performance-oriented compensation plans: They work. Peat Marwick's Chingos says his firm took a slice of the data from this year's survey and found that of the 100 fastest-growing companies (during the past five years), 28 had short-term performance plans in place. None of the slowest-growing 100 companies had short-term performance plans.

At Ken Swanson's construction company, for example, managers set gross profit goals for the year. If those are met, Swanson then deducts twice the managers' annual salaries and awards a bonus equal to 10% of the remainder. For a good manager earning \$50,000 a year with a profit goal of \$400,000, this bonus would amount to \$30,000.

Some owners see in all this a human need that goes beyond the desire to earn more money. "People want to belong," says Bill Ryan. "They're either going to belong to unions, or they're going to belong to churches, they're going to belong to something. . . . It's basic human weakness that goes through their fiber. You give them something to belong to and it goes a long way."

Getting employees to feel part of the team involves more than just talk, though. It may involve a major change in the compensation plan in one case, a minor tinkering in another. Take Jess Brand, president of \$5-million Brands Inc., a Columbus, Ind., lumberyard, who changed his annual bonus to a semiannual one. Why? "To keep it on people's minds," he says. Now, he thinks it may be necessary to move away from a discretionary bonus system based on a person's job tasks to one tied to the achievement of specific company goals.

Or consider Lucille Flint, president of Derma Science Laboratories Inc., a Rockwall, Tex., cosmetics manufacturer. Rather than part with equity in the business she and her husband own, Flint set up separate sales organizations, and the management of those entities can then earn and purchase equity in those companies. "We have found that's the best way to reward them, and I don't see why a lot of the bigger companies can't do that instead," she says.

Likewise, Keith Blakely, president of Advanced Refractory Technologies Inc., in Buffalo, has had to confront the equity question. His company's investors include local businesspeople, New York ven-

Changes in compensation policy

	Added Cut	
Short-term incentive plan	37%	1%
Long-term incentive plan	31	0
Health/retirement benefits	36	8
Perquisites	17	2
Special recognition/awards	19	0
Performance appraisal system	24	0

ture capitalists, and large industrial companies that want a window on promising new materials technology. Blakely knew that they did not want to see their holdings diluted further. But when he had to lure a key employee away from a bigger company, one able to pay a higher salary and offer more perks, equity became a deciding factor.

Considered almost a birthright by employees in high-tech Silicon Valley or Massachusetts Route 128 companies, getting a piece of the company is becoming increasingly common in all industries. At K. O. Swanson & Co., project managers are offered a chance to buy 5% stakes in some of the buildings the company erects and manages. If the employees don't have the cash to do so, the company will lend them the money at favorable interest rates. "If we're lucky, a \$5,000 investment will be worth \$20,000," says Swanson, noting that his people can buy into a building at wholesale prices and sell out at retail.

In addition, there is a trend to include more and more employees in equity plans. "In the small organizations, it's not uncommon to see every employee participating," says Jerrold Bratkovich, partner and general manager of the Los Angeles office of Hay Management Consultants.

But such tactics are not for every company. For some, just meeting the weekly payroll is a challenge. For owners of cash-poor and low-margin businesses, the words of Bill Ryan may ring true: "There is a rule of survival for small business. There are things that you want to have and things you can afford. You had better go with what you can afford."

Reporting assistance for this article was provided by Patricia Amend.

Anaheim Custom Extruders: Playing the Game

Like any good game, the compensation scheme at Anaheim Custom Extruders Inc. is both simple and complex. William A. Czapar, founder and chief executive officer of the \$2.5-million plastic-tubing manufacturer, has strung together a passel of incentives, each kicking in as a specific sales, profit, or productivity target is met. The idea behind it all is straightforward: The employees win when the company wins.

"Spend a buck to make two" is how Czapar likes to characterize it. Earlier this year, for example, Czapar took his top two managers out to dinner at a private club. He made sure their wives came along. Then Czapar made them all a promise: If the company's sales increased 30%, to \$3.25 million, all of them could expect a one-week, all-expense-paid Caribbean cruise as a reward.

"My goal was to get the wives involved," says Czapar. "Then there's a little push from behind." The cruises will cost no more than \$15,000, Czapar esti-

mates, but the 30% increase in sales would yield an extra \$50,000 in pretax, prebonus profits to the company.

The Anaheim compensation plan begins with sales estimates. Czapar has three categories: optimistic, pessimistic, and target. This year, the numbers are \$3.25 million, \$2.75 million, and \$3 million. From those points, Czapar can determine his net pretax, prebonus profits, then set aside 28% as a bonus pool. All employees will be paid a bonus in direct proportion to their base salary.

To the annual bonus, which is paid according to whichever sales goal is achieved, and the cruise, which will be given only if the optimistic sales estimate is right, Czapar has added another twist. If the company hits its target sales forecast, \$3 million this year, then key employees will receive a gift of stock in the private company equal to 10% of their base salary. If Anaheim reaches \$3.25 million, then the stock grant will be equal to 20% of those salaries.

One theme that runs rampant throughout Czapar's ap-

THE FACTS BEHIND THE FIGURES

This report is based in part on an executive compensation survey conducted by INC. and Peat, Marwick, Mitchell & Co., the accounting and management consulting firm. A four-page questionnaire was mailed to a random sample of 22,500 INC. subscribers in February and the 516 responses were tabulated and cross-referenced by Peat Marwick.

The respondents represent small companies—95% of them privately held—in 48 states and the District of Columbia, with 21% headquartered in the Northeast, 15% in the Southeast, 34% in the Midwest, 9% in the Southwest, and the remainder in the West.

By industry category, the responses were 27% business services, 20% professional services, 22% wholesaling/retailing, 13% durable manufacturing, 7% nondurable manufacturing, 7% construction, and 4% finance/insurance.

INC. senior editor Mark K. Metzger coordinated the project. Peat Marwick's participation was provided through its Human Resources Consulting Group, with analysis by PM/Pay, the firm's compensation survey unit. Technical support was supplied by Peter T. Chingos, national practice director of Peat Marwick's Executive Compensation and Personnel Practices.

Complete results of the survey are available in a 25-page report published by INC. and Peat Marwick. The confidentiality of all responses is protected. To obtain a copy of the report, send a written request and a check for \$55 to INC. Executive Compensation Study, Attn: John Titus, 38 Commercial Wharf, Boston, MA 02110, or call (800) 372-0018. In Massachusetts, call (617) 227-4700.

proach to compensation is that all the employees in the company must have incentives. That is not to say all get the same, though. Workers on the shop floor get \$15 or \$25 bonuses and a six-pack of beer (soda for teetotalers) for achieving plant-wide productivity goals.

"At the end of the shift, guys are standing around the foreman to see how they've done," Czapar says. "It's more than a lousy \$4 for the beer. It's recognition that they have done a good job. What I have created is a se-

ries of games within a game. It's a fun game," he adds, "and by God, work ought to be fun."—Tim Smart
TAKE AT THE TOP (cont.)

"It's more than a lousy \$4 for the beer," says William A. Czapar, CEO of Anaheim Custom Extruders. "What I have created is a series of games within a game."



BRIAN SMITH/BLACK STAR

BUCK MILLER/BLACK STAR



Ryan Transfer: Share and Share Alike

In April 1980, Bill Ryan felt he had nowhere to turn. Granted, his trucking company's revenues had doubled every year since he had founded it five years before. But now he was facing disaster with the recession creeping in on his customers, mostly paper mills and grocery distributors near his Green Bay, Wis., headquarters.

Cash had become a serious problem: Ryan could barely keep up with the payments on the equipment he had bought the previous year, when business was expanding. He was facing stiff maintenance expenses on his truck fleet, catching up after the long, harsh Wisconsin winter. And, as usual, sales were slow in the spring.

"I knew that something had to give," says Ryan. "If it didn't, I knew I'd have to lay off a lot of people—or lose the company."

Labor was Ryan Transfer's highest fixed cost and, in view of the situation, Ryan decided there was no way he could continue to pay a fixed wage. He initiated a sharing plan. The company's employees, managers and CEO included, would divvy up a flat 40% of gross sales, rather

than receiving regular salaries or hourly wages.

"It was tough," says Ryan, his voice edged with concern. "We pretty much had our backs to the wall and everybody knew it. We didn't know if we'd survive another month or two. People were nervous, but they accepted it because they knew times were tough. If it hadn't been that way, the plan would have been very difficult to sell. At that time, the plan helped me avoid layoffs. Without it, I don't think I'd have the company."

Revenue sharing didn't just save the company. Ryan believes it actually helped the company grow from \$1 million that year to \$4.2 million in 1984.

"If an employee is on a fixed wage, he loses touch with reality," explains Ryan, a wiry 45-year-old. "He doesn't know if the company is going through good times or bad." To further get the message across, Ryan puts the revenue each driver generates on his weekly check stub. "If the company has a good week, Kaboom! ... he knows it. In the long run, that's good for him because it's good for the company."

"The beauty of this fluctuating payroll is that we can go with the waves," Ryan says. "If we do a better job,

and we can justify better rates, our people automatically get a pay raise. Whatever business we do, the people share in what we get. I can't guarantee a guy \$13 an hour if a shipper will pay the equivalent of \$8. I can't soak the shipper for that. What I can do is channel the business so our people can work for the shippers."

After their first year on the job, drivers are eligible to move from hourly wages to the revenue-sharing plan, which currently includes 20 drivers. Another 25 drivers—part-timers and those with less than a year's seniority—are paid by the hour. The 45 drivers are paid from the 40% slice of revenues, with revenue-sharing drivers dividing up the balance after the hourly wages are paid.

Drivers in the revenue group generally make more than the wage earners, although a revenue-sharing driver's effective rate can fluctuate from a low of about \$8 an hour during a slow week to a high of about \$11 during a very busy one.

When Ryan initiated the sharing plan, he, with an administrative assistant, was the management. Today, there are 10 people in management and administration, in a separate revenue-sharing group, dividing up 10% of

Bill Ryan puts the revenue each driver generates on his weekly paycheck. "If the company has a good week, Kaboom! ... he knows it. That's good for him because it's good for the company."

revenues. Ryan pays himself 1% to 2% from that 10% pool, depending on company performance.

There is one exception to the revenue-sharing plan: long hauls, which are lower-margin deals. "Because fuel costs are so high on a long trip, I can't afford to pay the drivers the same percentage of the sale, so I pay them by the mile. They would make out a lot better if I paid them a percentage, so some of them don't understand that, but they've accepted it."

The sort of revenue-sharing plan that Ryan instituted has found support in an unexpected quarter: academia. Massachusetts Institute of Technology economist Martin L. Weitzman has recommended a type of sharing system at the company level as a cure for inflation and unemployment in the larger economy.

Whatever its global implications, the idea seems to be working for Ryan. "Now that we've been on this system, I don't think people would want to change back," he says. "When things are dry, they know some checks will be smaller. But when it rains, they do well."

The pay system, however, may now be undergoing its greatest test. Ryan has had to cut back from operating in six states to working within a 200-mile radius of Green Bay while he copes with insurance premiums that have jumped dramatically and sales that may drop as low as \$2.5 million this year. "I'm convinced," he says, "that if we got tied down to a wage system, we'd probably go out of business, and what good would that do employees?"—*Patricia Amend*
TAKE AT THE TOP (cont.)

Custom Components: Tailoring the Take

Compensation plans at smaller companies in many cases are rather haphazard affairs, a pastiche of a series of *ad hoc* decisions. Some companies, however, have created similarly varied pay plans, not through accident, but as a conscious attempt to mold the plan to address the people and challenges within the company.

That was the case at Custom Components Inc., a highly profitable made-to-order military solid-state components manufacturer in Lebanon, N.J. At Custom, president Charles Blaine had to make distinctions in his compensation plan to acknowledge the different responsibilities and professional backgrounds of his top two managers.

The chief issue for his production manager was motivation. In Custom's early days, the around \$2-million company had enjoyed a heady financial performance that included gross profit margins upward of 70%. After a few years, though, Blaine noticed that the margins were slipping a percentage point here and there.

Blaine decided to change the way he paid the general manager, who is responsible for production and who also carries the title of vice-president. Up until that point, the employee had been taking home a fixed salary with no incentives. So Blaine added a monthly bonus plan, triggered once gross margins reach 55%. Above that point, the manager receives a share of the gross profits that climbs in eight steps from .75% to 2.5%. The maxi-

mum rate is reached when gross margins are at 72.5% or higher. In a good year, that could add up to \$12,000 to \$15,000.

"Let me tell you, that really works," says Blaine, flipping through sheets of paper to check gross profit margins for recent months. "Before we instituted that, our margins were around 60%. Last year, the company's gross was over 75%.

"It was to motivate him," Blaine says of his general manager. "You have to make [the incentive] key to whatever he controls."

The problem was quite different when Blaine set out two years ago to hire a top engineer to oversee development of a new product line. The engineer, recruited from an established company on Massachusetts Route 128, wanted an equity stake for

making the move to the tiny New Jersey company, but Blaine didn't want to part with any of his holdings. Instead, he set up a second company to manufacture and market the new products and gave his new hire a piece of that company. The new vice-president also receives 10% of net profits once the net return passes 10% of sales.—T.S.

Charles Blaine had to devise entirely different compensation plans for his two top managers, one based on short-term performance and one built around an equity offer.

Bahr Brothers Mfg.: Gains Burghers

Recently, an order for castings with an unusually quick deadline came into Bahr Brothers Manufacturing Inc., a foundry and machine shop in Marion, Ind. To do the job, employees had to work round-the-clock instead of the customary eight-hour shifts. But the order was completed and the customer was satisfied, all without a groan or a grimace from the workers. In fact, employees were glad to do the extra work in a short time because they knew their gain-sharing checks would be fatter at the end of the month.

Gain-sharing, a broad term for programs that give frequent bonuses when employees increase their output, is a concept that caught chief executive officer Bill Jackson's interest during his 20 years as a manager of several Midwestern foundries. At one Michigan company, he realized that the company made money when labor was 33% of gross sales or less, and lost money when labor costs ran higher. Gain-sharing seemed to be a way to keep labor costs under control. The idea was a little too



With a gain-sharing plan, Jeff (left) and Bill Jackson's foundry grew 15-fold during a turbulent period when many competitors disappeared.

radical for Jackson's employees, however, so in 1966, he bought Bahr Bros. with the aim of installing a gain-sharing plan for all employees, managers included.

Under gain-sharing, sales at Bahr Bros. have grown from \$110,000 in 1966 to \$1.8 million in 1984—during a turbulent period when dozens of foundries have disappeared and the survivors

have had to contend with the fiercest overseas competition they have ever known.

Gain-sharing, Jackson believes, has been an important factor in Bahr Bros.' success. In fact, he is so enamored of the concept that he is turning control of the company over to his son, Jeff, in order to pursue a consulting business, advising other companies on how to set up gain-sharing plans.

There are many different formulas that can be used in gain-sharing. Jackson based Bahr Bros.' plan on labor because it was the simplest and easiest for employees to understand. He also established separate plans for hourly and salaried workers,

reflecting the different skills and responsibilities of each group. The hourly plan uses 27.3% of gross sales as a target labor cost, figuring in employee benefits and the cost of any returned product. When labor costs for a month run less than 27.3%, the difference in dollars is divided among all hourly employees.

To promote a team spirit, the salaried plan is tied to the hourly plan. An amount equal to 15% of the hourly plan is divided among the salesperson, the superintendent, and two administrative employees. Jeff Jackson, vice-president and general manager, now receives a salary and a percentage of sales.

In addition to motivating workers to hold costs down, the younger Jackson relies on gain-sharing as an indicator of company performance. "The plan is a management tool that allows us to predict the company's profitability for every four-week period," he says. "In 1982, it told us we needed to make some drastic changes immediately because the work wasn't profitable. If we hadn't had gain-sharing, we might have lost the company."—P.A.

TAKE AT THE TOP (cont.)

Right Associates: 28 Entrepreneurs

Frank Louchheim had a pretty clear idea of the kind of company he wanted when he and three others set up Right Associates five years ago. He knew that most of the business for the fledgling outplacement firm would flow from *Fortune* 500 companies, and that, to serve their needs, he would quickly have to build a national network of offices. But he didn't want to go deeply into debt to do it and risk strangling the young company's cash flow with interest payments.

Louchheim's answer was to set up each office as a separate profit center, headed by a manager with the authority to run the business as he or she saw fit. Each office would be expected to break into the black in its first year and provide a constant stream of start-up cash for new offices thereafter. To make the system work, Louchheim knew that he would have to attract experienced, entrepreneurial managers who would thrive on independence. The lure would be a compensation system that treats each manager as an entrepreneur: The higher the office's profit, the higher the manager's pay.

This was familiar territory to Louchheim. Before starting Right, he and his three co-founders had been independent consultants, and had worked together doing outplacement counseling for other organizations. Each operated in a different city and received straight commissions. "When we started, we didn't have enough volume to pay a salary," says Louchheim. "So we lived or died by what we did in our own offices."

Working from his own experience, he developed the strategy that has allowed Right Associates to set up 28 offices throughout the United States, with no long-term debt. In the next five years, the company plans to add 15 to 25 more offices in this country and some overseas, all largely financed internally, although there may be a

need for a private placement or a public offering.

The key to the Right system is the company's corps of office managers, paid under a compensation plan that was designed to attract and keep the best talent. To start, each manager receives an "extremely modest" base salary for managing the office. The manager gets another salary for time spent actually counseling clients, plus a commission on the office's sales. In addition, the manager has an operating profit target. If the target is hit, he or she gets 10%. For every point over, the manager receives an extra percentage point of bonus, with a maximum of 20%. If the target is missed, there is a half-point deduction, with a 5% floor. "An office manager," says chief financial officer Stan Tilton, "can earn from 50% to 100% or more over and above his or her salary in bonuses. We have one person at 600%."

In addition, after a year, every office manager who meets goals receives stock options "commensurate with the size of the office and its contribution to the size of the company," adds Tilton.

Office managers report to Louchheim or to the director of regional offices with "dotted line" responsibility to Tilton for administrative and financial duties. "We've attempted to create 28 entrepreneurs," says Tilton. "And that's a very difficult thing to do as we grow. We went from 13 offices to 28 in less than three years. We have some systems and procedures in place, but not enough to tie ropes around our managers' necks."

"No ropes" means that Right has only a skeleton corporate staff at headquarters, and their compensation is geared toward helping the offices reach their goals. The staff is headed by Louchheim, who receives a salary and graduated bonus based on predetermined, tiered sales goals. Another bonus is based on a goal of net income before taxes. Tilton receives a salary plus one bo-



SAL DIMARCO/BLACK STAR

nus based on net operating profit goals, and another bonus based on a cost-reduction program.

Another officer, in charge of training, product development, and maintenance, receives a salary and two bonuses, one based on the number of weeks he reduces "landing time"—the time it takes a candidate to land a new job—and a second bonus that is a percentage of sales on new products he develops and brings to market.

A third officer, the director of regional offices, receives a salary and a percentage of a predetermined sales goal. If he exceeds that target, he receives a graduated percentage of the excess.

To reduce the temptation of corporate officers to put too much pressure on office managers, the system has some buffers. "I get an incentive based on the aggregate operating incomes of all of the offices," explains Tilton. "If 26 make it and 2 don't, for example, our compensation committee, which is made up of officers and members of our board, will look at the total effort rather than just the bottom line. I have a 'fail-safe bonus' which has a limit of 20% of my annual salary if I don't make my goals. Otherwise, the pressure would short-circuit the incentives."

To make his network of autonomous Right Associates offices work, CEO Frank Louchheim had to set up a compensation system that would treat each office manager as an entrepreneur.

Right's incentive program is also a useful performance indicator that sends up a red flag in the event of trouble. Says Tilton: "If two offices don't make the goal, then we know where to concentrate our efforts."

Whether Right Associates can remain decentralized and keep its entrepreneurial style as it continues to expand is a matter of some disagreement between Louchheim and Tilton. It reflects a healthy tug-of-war between CEO and CFO. "What'll probably happen is that another tier [of management] will come in, an eastern region and a western region," says Tilton. "I hope not," says Louchheim from across the conference table. "I think when people can't talk to you, you lose something. I don't care if people call me at six in the morning. I'd rather spend the time on the phone talking the problem through."

—P.A.

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REPORT ON THE STATES
A NEW FEATURE: America's
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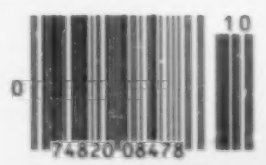
Most of what you hear about entrepreneurship,
says America's leading management thinker,



is all wrong. It's not
magic; it's not myste-
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nothing to do with
genes. It's a discipline
and, like any disci-
pline, it can be learned.

An Interview with
Peter Drucker

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Patricia Barry Levy

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CORPORATE SPIES

Computers Vulnerable in Small Companies

ONCE UPON A TIME, ONLY BIG companies had to worry about computer crime. But times change.

Small companies are increasingly vulnerable to computer criminals, ranging from hackers on an electronic joyride to competitors stealing data. "Small companies are often pushovers," says August Bequai, a Washington, D.C., lawyer specializing in industrial security. "They're concerned with growth and cash flow. They don't understand computer security and don't have money to implement it. They become prime targets."

Spies and hackers gain access to computers through telephone lines linking the computers to the outside world; employees on the road or at home use these lines to connect their terminals to the main computer. But criminals can dial the same lines, then manipulate the password system to gain entry—often a simple task if employees use predictable passwords. Companies are also vulnerable if they buy used computers that lack state-of-the-art security features.

Many computer crimes go unreported, since small companies can't afford the adverse publicity, cost of litigation, or insurance increases that can come with such cases. "Small businesses do everything they can to hide their vulnerability," says Donn Parker, a senior management consultant with SRI International. "It's much easier to simply forget it."

The criminal code isn't much help. Congress has failed to adopt a statute that covers private-sector computer crime. More than 30 states have passed such laws, but only about 60 cases covered by these statutes have reached the courts. —William Souder



Lawyer August Bequai says small firms are prime targets of computer crime.

JOHN NEUBAUER

Gum chewers owe their treat to the Mexican general who wiped out Davy Crockett and his band at the Alamo. General Antonio López de Santa Anna,

a deposed dictator living in exile on Staten Island, figured he could raise enough money for an army if he started an artificial-rubber industry based on chicle. In 1869, he gave New York inventor Thomas Adams Sr. a chicle sample and persuaded him to buy another



ton for experiments. When Adams didn't produce anything, Santa Anna lost interest. Adams didn't. He eventually used the chicle to

create a chewing gum that was better than the awful paraffin wax then available. The first batch of 200 unflavored gum balls sold out before noon the very first day—to Jersey City schoolchildren, who no doubt spent the afternoon writing, "I will not chew gum in class."

SCORECARD

Small-Time Justice

The mergers game has become the greatest show on Wall Street, with huge companies gobbling each other up with nary a protest from the trustbusters in Washington. But the total number of antitrust cases has dropped only slightly since President Reagan took office. The vast majority of antitrust cases now, as in the past, are brought against small or medium-size companies.

These defendants make easy targets, because they have neither the money nor the management depth to defend a case for years. And most are charged with bid rigging and price fixing, allegations that are comparatively easy to prove. The prosecution just has to establish that conspiracy for the purpose or effect of restraining competition did in fact take place. On the other hand, monopolization or restraint-of-trade cases against large companies are so complicated that they can consume a decade or more of



litigation—witness the mammoth cases against American Telephone & Telegraph Co. and IBM Corp.

Small government contractors, especially those involved in road work and other construction, were the most common antitrust defendants in both 1980 and 1984, the fourth years of the Carter and Reagan Administrations. Professional associations were a hot target in 1980 because of alleged restrictions on membership or pricing, practices that can make it more difficult for entrepreneurs to enter a market. Here are the top 11 antitrust targets: —Virginia Inman

Rank	1980 Industry	1980 # cases	Rank	1984 Industry	1984 # cases
1.	Road building	34	1.	Road building	45
2.	Elect. construction	20	2.	Professional services	11
3.	Paving material	12	3.	Construction	6
4.	Utility construction	3	4.	Concrete construction	4
5.	Waste disposal	3	5.	Asphalt/paving	4
6.	Aerial spraying	3	6.	Steno reporting	4
7.	Retail gasoline	2	7.	Milk/dairy products	3
8.	Scrap metal	2	8.	Chemicals	3
9.	Supermarkets	2	9.	Airport construction	2
10.	(none with more than 1)		10.	Home food processors	2
11.	(none with more than 1)		11.	Screws	2
Total # cases: 100			Total # cases: 115		

FRANK SITEMAN/THE PICTURE CUBE

SOURCE: COMMERCE CLEARING HOUSE INC./TRADE REGULATION REPORTS

INC.'S FIFTH ANNUAL

REPORT ON THE STATES

BY NELL MARGOLIS

Ever since INC. first started doing the annual Report on the States in 1981, our purpose has been less to rank the 50 states than to aid businesspeople and policymakers in their ongoing efforts to improve the climate for small businesses. And, increasingly, each successive States Report, based on information drawn from federal government data and telephone interviews with state officials, becomes the profile of a nation mobilizing to face that challenge. This year's total scores are an all-time high.

Leading the pack, with 86.4 points (out of a possible 100), is California, which met the challenge head-on with creative and innovative small-business support systems of every kind. And yet the term "winner" also applies to 50th place West Virginia, with a score of 42.1, which allocated a portion of its relatively scant resources toward a new loan-guarantee program for small businesses, and which ranks among the high performers in state support. And some mention must go to South Carolina, which continued last year's record-breaking 31-place climb by moving an additional 5 places this year to #14. The higher scores all across the board reflect the continuing (if uneven) national economic recovery, a condition over which states have little control. But another factor has contributed to a more agreeable climate for small, growing businesses—every single state now has at least 1 of the 10 small-business support and capital-availability programs that INC. surveys.

There are few surprises among the overall top-ranking performers. California, which leads the capital category for the third consecutive year and now joins the top scorers in state support as well, moves up to #1 from its 1984 stop at #3. In fact, last year's top three states—Connecticut, Massachusetts, and California—are still hanging together around the top, albeit in slightly scrambled order, and are joined by Colorado, which moves up to #3, largely on the strength of its new state-support programs. Only Florida, which jumps 19 places to reclaim the #6 position it held two years ago, can be described as having

made a leap into the top 10. Its rise is due to a number of factors: its improvements in state support, capital, and particularly in general business activity.

While it would be *interesting* to report that a given geographical region had either captured or abdicated the top sector of our ranking, it wouldn't be *true*. This year's top 10 states represent seven different regions—East Coast, West Coast, Gulf Coast, New England, Middle Atlantic, Midwest, and Rocky Mountain.

The biggest shifts from the 1984 to the 1985 rankings occur not at the top, but at the bottom. Although Utah scored below the median in the capital category, steady improvement across the board allowed it to climb from #45 in 1984 to #19 in 1985. Roughly the same number of steps gained by Utah were lost by Nebraska—and one needn't search hard to find where the shortfall occurred, or why. If there was any money to be made in farming last year, only the motion picture industry found it. Other states that fell in the overall rankings, hurt by cuts in capital and state-support programs, include Pennsylvania, Michigan, and Louisiana. Pennsylvania and Michigan were hit by declines in basic manufacturing industries, while Louisiana was strapped by drops in oil-related activities.

Capital plays an important role in the ranking (with a maximum of 25 points) because—as Cyndi Lauper so aptly put it—"money changes everything." This year, the top 10 states in capital resources are California, Connecticut, Massachusetts, Minnesota, Colorado, New York, Virginia, Alaska, Texas, and Illinois. The category measures levels of industrial and commercial lending, small business investment company (SBIC) activity, and four types of state capital-resources programs (direct loan, loan guarantee, bond guarantee, and venture capital funds).

After last year's blizzard of activity, with 24 states launching a total of 31 new capital-resource programs, this year's report would almost have to look tame by comparison—and it does. Eleven states added an aggregate of 15 new programs, 7 of which were venture capital funds; 13

states dropped a total of 16 programs, which would seem to be a slight setback. Here, however, the numbers can be deceiving. In a year of shrinking resources, the cancellation of a capital-availability program can signify healthy experimentation, a good-faith effort to allocate limited funds for maximum effect. Witness Utah's discontinuation of its direct-loan program and Georgia's dropping of a bond guarantee, with simultaneous inaugurations of venture capital funds in both states. Impressive commitments to improving the small-business economic environment show up in other states as well. Wyoming, despite its relatively depleted coffers, added a new program this year; Arkansas, its banked resources in not much better shape, added 2; and Indiana, notwithstanding low scores on dollars available at the banks of the Wabash, continues to offer all 4 types of state-provided capital programs.

Like capital, state-support activities are also important in the ranking (25 points), because the ways in which a state does or doesn't get behind its entrepreneurial sector are largely within the state's control and are often paramount in attracting, encouraging, and retaining INC.-size businesses. Scores are based on the presence or absence of a small-business advisory office (within state government), advisory council (comprised of small-business people), ombudsman, legislative committee, statewide conference, and procurement set-asides.

The top 10 states in this year's state-support category are Indiana, New York, California, Illinois, Kentucky, Georgia, Massachusetts, Connecticut, Minnesota, and Florida. It isn't difficult to understand why such 1984 top 10 states as oil-soaked Louisiana, or heavily industrial Michigan, Pennsylvania, and Ohio have each dropped at least one state-support program

Decisions made by state officials play a major role in determining the climate for small businesses. Capitols pictured are (row 1) California, Colorado, Minnesota; (row 2) Illinois, Utah, Washington; (row 3) Pennsylvania, Vermont, Iowa.

REPORT ON THE STATES

RATING THE STATES

Rank/state	CAPITAL RESOURCES				LABOR				TAXES
	Bank loans % assets	Comm./ind. loans per capita	SBIC finan. per capita	State programs ¹	Avg. wkly. wage	% union	% h.s. grads. over 25	Value added per worker (\$000/yr.)	Per \$1,000 personal income
Median	57.5%	\$947	\$1.2		\$380.4	23%	68%	\$37.8	\$106
1. California	69.1%	\$1,903	\$3.7	DL,LG,BG,VC	\$410.2	27%	74%	\$39.0	\$108
2. Connecticut	62.3	1,705	6.4	DL,LG,BG,VC	404.0	23	71	37.4	104
3. Colorado	60.1	830	2.8	DL,LG,BG,VC	388.6	18	78	34.3	98
4. Massachusetts	59.0	2,087	4.8	DL,LG,BG,VC	357.7	25	73	33.6	118
5. Virginia	65.4	1,007	1.2	LG,BG	339.1	15	63	35.8	100
6. Florida	57.0	816	1.5	—	325.7	12	67	29.1	90
7. Minnesota	59.3	1,673	3.7	DL,BG,VC	403.3	26	72	37.8	132
8. New Jersey	57.8	1,190	1.8	DL,LG,BG	402.0	26	68	41.1	112
9. New York	55.1	5,173	5.1	DL,BG	384.2	39	66	43.6	153
10. Illinois	57.9	2,406	0.7	DL,LG,BG,VC	402.7	30	65	52.1	104
11. Indiana	54.3	835	1.2	DL,LG,BG,VC	449.9	30	66	43.5	90
12. Georgia	57.7	884	1.2	VC	329.4	15	57	30.2	103
13. North Carolina	59.3	1,124	1.1	VC	287.4	10	55	30.2	102
14. South Carolina	54.0	459	1.8	DL,LG,BG	306.1	8	54	29.4	105
15. Arizona	65.6	1,299	0.6	—	377.8	16	72	29.8	108
16. Delaware	81.3	6,866	0.5	—	423.0	25	68	34.2	109
17. New Mexico	57.3	792	1.6	DL,LG	349.6	19	68	29.0	117
18. Texas	61.3	2,435	4.7	—	386.4	11	61	46.9	93
19. Utah	59.1	864	1.2	VC	365.5	18	80	35.6	113
20. Hawaii	63.3	1,167	0.2	DL	310.1	28	73	59.8	129
21. Washington	66.8	1,328	1.1	—	448.5	34	77	49.2	114
22. New Hampshire	64.0	533	2.1	LG	336.5	16	72	28.4	89
23. Kansas	52.5	559	0.7	VC	378.8	15	72	42.3	97
24. Montana	55.7	705	2.9	LG,VC	432.3	29	75	62.1	126
25. Ohio	57.0	982	0.9	DL,LG,BG,VC	483.1	31	67	44.4	103
26. South Dakota	77.8	942	0.6	—	318.7	15	69	33.9	96
27. Rhode Island	57.3	1,620	1.9	LG,BG	287.5	28	61	29.4	120
28. Idaho	63.2	1,136	0.1	—	346.1	18	73	35.5	99
29. Louisiana	54.7	1,106	1.3	DL,LG,VC	426.6	16	58	70.0	105
30. Arkansas	52.9	696	0.8	DL,LG,BG,VC	301.2	16	55	29.7	92
31. Wisconsin	57.2	697	1.9	DL,LG,BG,VC	426.5	29	70	41.3	132
32. Vermont	70.6	926	0.4	DL,LG	344.9	18	71	34.3	122
33. North Dakota	51.6	576	0	LG,BG	307.3	17	67	36.2	103
34. Maine	60.7	572	1.3	DL,LG,BG,VC	340.7	24	69	33.0	121
35. Alaska	62.1	1,694	1.6	DL,LG	449.4	34	83	80.8	330
36. Kentucky	52.5	815	0.5	DL,LG,BG	379.6	24	52	45.7	101
37. Alabama	51.2	725	1.9	DL	343.6	22	57	32.5	94
38. Iowa	49.7	474	0	DL,VC	419.0	22	71	55.2	109
39. Pennsylvania	59.8	1,749	0.4	DL,LG,VC	381.2	35	65	42.4	107
40. Michigan	57.8	1,126	1.6	VC	562.5	37	68	38.0	125
41. Missouri	52.5	835	0.2	DL,LG,BG,VC	394.8	28	64	37.8	92
42. Mississippi	50.8	581	2.0	DL	292.3	16	55	31.8	100
43. Oklahoma	55.2	1,280	1.6	DL	404.9	15	67	41.9	103
44. Nevada	56.7	952	0.8	—	381.9	24	76	31.4	103
45. Maryland	56.1	982	1.0	DL,LG,BG	404.6	23	67	43.1	111
46. Tennessee	54.2	836	0.8	—	339.9	19	55	32.5	91
47. Oregon	60.9	1,139	1.7	DL	421.1	26	75	40.6	119
48. Wyoming	51.8	613	1.9	LG	356.8	19	78	70.8	202
49. Nebraska	55.2	509	1.5	—	356.9	18	74	43.6	108
50. West Virginia	48.0	311	0.0	DL,LG	405.8	34	57	53.7	112

Sources (by column, left to right): Federal Deposit Insurance Corp. (1); Data Resources Inc. (2); U.S. Small Business Administration (3); State development agencies (4); U.S. Department of Labor, Bureau of Labor Statistics (5,6); U.S. Department of Education (7); Department of Commerce, Bureau of Census (8); Tax Foundation (9); INC. survey of 50 states (10); Department of Commerce, Bureau of the Census (11); Department of Commerce, Bureau of Labor Statistics (12); Department of Commerce, Bureau of Economic Analysis (13); Department of Commerce, Bureau of the Census (14); INC. (15)

REPORT ON THE STATES

STATE SUPPORT	BUSINESS ACTIVITY				
Small bus. assistance ²	Pop. % change (1980-84)	Emplmt. % gain (1982-84)	Pers. inc. % change (1981-83)	Business units per 1,000 pop.	INC.100 companies (1979-85)
	3.1%	3.3%	16.3%	20	3
AO,OM,AC,LC,SC,PS	8.3%	5.7%	17.9%	21	97
AO,OM,AC,LC,PS	1.5	6.0	18.3	22	11
AO,OM,AC,SC,PS	10.0	6.9	16.2	23	26
AO,OM,AC,LC,PS	1.1	6.9	19.6	21	22
AO,OM,AC,LC,SC	5.4	7.6	17.9	18	8
AO,OM,LC,SC,PS	12.6	12.6	20.5	21	13
AO,OM,AC,LC,PS	2.1	3.6	18.0	21	27
AO,OM,AC,SC,PS	2.0	7.7	18.1	21	26
AO,OM,AC,LC,SC,PS	1.0	3.7	16.6	21	49
AO,OM,AC,LC,SC,PS	0.7	-2.0	14.7	19	5
AO,OM,AC,LC,SC,PS	0.1	0.8	17.7	18	9
AO,OM,AC,LC,PS	6.8	11.8	22.5	18	10
AO,OM,AC,LC,SC	4.8	7.1	20.4	18	2
AO,OM,AC,LC,SC	5.7	6.2	19.7	17	3
AO,OM,AC,LC	12.3	13.5	22.1	19	3
AO,OM,AC,LC,SC	3.1	8.3	16.9	20	1
AO,OM,AC,SC,PS	9.3	5.8	15.7	19	2
AO,PS	12.4	4.1	15.8	20	52
AO,AC,LC,SC	13.0	7.8	17.2	17	2
AO,OM,AC,LC,SC	7.7	1.9	14.7	21	0
AO,AC,LC,PS	5.2	1.8	10.8	21	9
OM,LC	6.1	11.6	21.1	22	2
AO,OM,AC,SC,PS	3.1	1.1	14.8	23	2
AO,OM,AC,LC,SC	4.7	-0.3	8.8	25	0
AO,OM,AC,LC,SC	-0.4	-1.6	15.3	18	9
AC,SC,PS	2.2	3.6	19.9	23	0
AO,OM,AC,LC	1.6	2.7	17.5	22	0
AO,OM,AC,LC	6.0	-0.7	15.7	20	1
AO,OM,SC,PS	6.1	-2.1	9.9	18	2
AO,OM,PS	2.7	5.7	17.4	18	0
AO,OM,AC,PS	1.3	0.9	14.7	20	4
AO,OM,AC	3.6	5.1	14.5	25	0
AO,AC,LC,SC,	5.2	1.3	17.1	24	0
AO,OM,AC	2.8	6.3	17.1	20	1
AO,OM	24.4	20.9	14.4	21	1
AO,OM,AC,LC,PS	1.7	0.8	15.0	17	2
AO,AC,LC,PS	2.5	2.7	16.4	16	3
AO,OM,AC,LC,SC	-0.1	-2.4	13.8	23	2
AO,OM,AC,SC	0.3	-1.7	13.0	18	8
AO,OM,AC,SC,PS	-2.0	-0.6	15.9	17	8
AO,OM,SC	1.9	3.0	17.4	20	1
AO,OM,AC,SC	3.1	0.5	15.2	16	1
—	9.0	-1.4	8.3	21	10
AO,AC	13.8	3.9	15.5	21	1
AO,PS	3.1	5.0	17.2	18	10
AO,OM,PS	2.7	3.0	16.9	18	4
AC	1.6	-1.4	14.2	22	4
OM	8.9	-11.0	4.0	27	3
AO	2.3	0.9	14.0	23	3
AO,OM,AC,LC,SC	-0.1	-5.3	9.3	16	0

¹ DL-direct loans; LG-loan guarantees; BG-bond guarantees; VC-venture capital

² AO-advisory office; OM-ombudsman; AC-advisory council; LC-legislative committee
SC-statewide conference; PS-procurement set-asides

* Includes union membership in District of Columbia

over the past year—if the spirit is willing but the cash is weak, state program cutting may be unavoidable. Nor did steps backward occur only in the top 10. Out of 13 states offering all six of the surveyed programs last year, only Indiana, New York, and Illinois have kept up the good work.

The labor ranking (20 points) weighs what a state "gets" in terms of productivity (dollar amount added by each employee to the raw value of manufactured goods) and a more sophisticated work force (percent of workers older than 25 who are high school graduates) against what it "pays" in terms of higher wages and extent of unionization.

The top 10 states this year are repeaters from last year, with only a few changes in order: Wyoming, Utah, Nebraska, Hawaii, Kansas, Colorado, Idaho, Vermont, South Dakota, and North Dakota. Wyoming, 48th in the general ranking, once again is in the lead.

As for business activity (20 points)—measured by changes in population, employment, and personal income; business unit density; and representation of INC. 100 companies—the top 10 states are New Hampshire, Florida, California, Colorado, Arizona, Massachusetts, Alaska, Georgia, Connecticut, and New Jersey.

The wild fluctuation that characterized this category last year is absent from this year's survey, which shows only one state—New York—departing the upper reaches. Despite increases in population and employment, a relatively slow growth rate in personal income broke New York's tenuous hold on top-10 status. Growth in employment and sharply increasing personal income sent Arizona back to the top, a recovery from last year's poor performance in this category.

Taxes count the least in our ranking (10 points), since low taxes don't necessarily coincide with, much less dictate, the most favorable soil for growing a business. "Tax advantages," as an eminent Boston corporate tax attorney once cautioned an audience, "are always the cherry on the sundae; they should never be the sundae itself."

The tax category is a case of opposites: The fewer taxes a state imposes, the higher its score. By that measure, the top 10 states are New Hampshire, Florida, Indiana, Tennessee, Missouri, Arkansas, Texas, Alabama, South Dakota, and Kansas. Of these, the only overall top-10 entry is Florida—which held the same #2 slot in taxes last year, when its overall position was #25. Moreover, two states—Missouri and Tennessee—are in the top 10 in the tax category rank, but in the bottom 20% overall. Another two states—Minnesota and New York—are in the top-10 rank overall, but in the bottom 10% in taxes. □